DOCUMENT RESUME

ED 434 500 EF 005 617

TITLE	Rules and Regulations: Minimum Schoolhouse Construction Standards.
INSTITUTION	Arkansas State Dept. of Education, Little Rock.
PUB DATE	1992-00-00
NOTE	121p.
PUB TYPE	Legal/Legislative/Regulatory Materials (090)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Elementary Secondary Education; *Facility Guidelines; Interior Space; Lighting; Plumbing; *Public Schools; *School Construction; School Maintenance; Site Selection; *State Legislation; *State Regulation
IDENTIFIERS	*Arkansas

ABSTRACT

Regulatory guidelines governing the minimum schoolhouse construction standards as well as rules for new construction applications, school site selection, and approval procedures are presented. Appendices (comprising 95 percent of the publication) document the following: educational space guidelines; planning for modern education; school construction laws; suggested measures for maintenance and housekeeping; and recommendations on restroom and plumbing fixtures and on school lighting. Concluding sections provide an example of a bid notice and the state agencies required by law for approving new school construction or addition plans. (GR)

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ED 434 500

ARKANSAS DEPARTMENT OF EDUCATION

RULES AND REGULATIONS

MINIMUM SCHOOLHOUSE CONSTRUCTION STANDARDS

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ARKANSAS DEPARTMENT OF EDUCATION
RULES AND REGULATIONS
MINIMUM SCHOOLHOUSE CONSTRUCTION STANDARDS

1.00 REGULATORY AUTHORITY

1.01 These regulations shall be known as Arkansas Department of Education Regulations governing Minimum Schoolhouse Construction Standards.

1.02 These regulations are enacted pursuant to Arkansas Code Annotated 6-20-1406 and 6-20-1407, and Standard XVI, "Standards for Accreditation of Arkansas Public Schools." (Standard XVI covers the Arkansas Architectural Law, The Arkansas Engineering Law, the Arkansas Contractors Law, the Arkansas Earthquake Resistance Design Law, and other applicable statutes.)

2.00 PURPOSE

2.01 It is the purpose of these regulations to establish reasonable minimum standards for schoolhouse construction, and the standards may be revised from time to time as educational problems and methods of procedure develop and change.

3.00 DEFINITIONS/ACRONYMS

3.01 ADE: Arkansas Department of Education

3.02 ADH: Arkansas Department of Health

3.03 ADPC&E: Arkansas Department of Pollution Control and Ecology

3.04 ASBS: Arkansas State Building Services

3.05 EPA: Environmental Protection Agency

3.06 Shall: The use of the word "shall" indicates that a provision is mandatory.

3.07 Should: The use of the word "should" indicates that a provision is recommended but is not mandatory.

4.00 APPLICATION

4.01 These regulations will apply to all new construction, additions to, and the establishment of classroom space in existing school facilities, in which the actual work commences after the regulations' effective date. (Projects that commence after the effective date of these regulations, but were designed prior to the effective date, must comply with the minimum standards. This may require revision of the preliminary construction plans.) These minimum size requirements will apply to all of the educational spaces listed in Section 7.01 that local school districts choose to construct.

5.00 SCHOOL SITE SELECTION

5.01 Any application for approval of a school facility must be accompanied by a written evaluation describing the effect placement of the facility at the particular site selected will have upon (a) the school district's ability to establish and/or maintain an acceptable racial balance in schools within the district, and (b) the ability of surrounding districts to maintain an acceptable racial balance. Evaluation forms, which must be completed on each project, are available at the ADE Office of School Plant Service.

5.02 No application for approval of a school facility shall be approved until the school site has been approved by the ADE.

6.00 APPROVAL PROCEDURES

6.01 A copy of the preliminary floor plans bearing the applicable architect's Arkansas seal, the engineer's Arkansas Seal, and the engineer's signature & reference to the applicable Seismic Zone as required by Act 1100, 1991, shall be submitted to ADE's School Plant Service for their review and approval.

6.02 A copy of the preliminary construction plans shall also be submitted to the ADH, ASBS, and State Fire Marshal's offices for their review and approval. The ADH approves plumbing plans, the ASBS approves architectural barrier plans, and the State Fire Marshal approves fire prevention plans in accordance with the applicable codes.

6.03 A copy of final approved plans of all new schoolhouses or additions shall be filed with the ADE's School Plant Service before construction commences.

7.00 MINIMUM EDUCATIONAL SPACE STANDARDS 5

7.01 Arkansas Educational Space Standards
(NOTE - Refer to Section 4.00 APPLICATION)

Educational Space	Minimum Standard Total Net Area In Square Feet
Administrative Area	
Elementary School	
Reception Area and General Office	200
Principal's Office	120
Health Room (Nurse's Station)	150
Health Room (includes nurse's office, toilet and shower facility)	400
Teachers' Workroom	200
Office Workroom and Storage	300
High School	
Reception Area and General Office	250
Principal's Office	120
Other Administrative Personnel	120
Teacher's Workroom	200
Office Workroom and Storage Area	250
Health Room (Nurse's Station)	150
Health Clinic (includes nurse's office, toilet and shower facility)	400
Art	
Elementary Art Room	750
Storage	300
Secondary Art Room	750
Storage	300
Business Education	
Classroom	750
Laboratories	1200 ~~1500~~
Office	100
Reprographics/Storage	100
Elementary Instructional Areas	
Kindergarten Classrooms (self-contained toilets are recommended, and that space would be in addition to the 750 square feet)	750
Grades 1-6 Regular Classrooms	750

Educational Space	Minimum Standard Total Net Area In Square Feet
Foreign Languages	
Classroom	750
General Cooperative Education or Industrial Cooperative Training	
Classroom	750
Office	100
Storage	100
Guidance	
Elementary Counselor's Office and Workroom	240
Secondary Counselor's Office	120
Reception and Display Areas	120
Group Procedures Room	400
Health Classroom & Lab	750
Health Occupations Education	
Classroom	750
Clinical Laboratory	375
Storage, Toilet, Corridors	370
Office	370
Home Economics	
One-Teacher Department	2400
Two-Teacher Department (600 sq. ft. for each additional teacher)	3000
Industrial Arts	
Classroom/Planning	750
Work Area	1200
Storage	480
Finishing Area	220
Toilet and Lavatory	150
Junior High Career Orientation	
Classroom	750
Office	80
Storage	100

Educational Space	Minimum Standard Total Net Area In Square Feet
Language Arts	
Classroom	750
Library and Materials Center	
Elementary Schools	
Reading, Listening and Viewing Area	1200
Office/Planning Area	120
Conference Room	120
Workroom/Production Area	200
Materials/Equipment Storage	200
Secondary Schools	
Reading Room	1200
Office Area	120
Conference Room	120
Workroom/Production Area	200
Materials/Equipment Storage	200
Marketing and Distributive Education	
Classroom	750
Office	100
Storage	100
Mathematics	
Classroom	750
Music	
Elementary	
Music Room	1050
Office Space	100
Storage Room	80
Activity/Practice	55
High School - Vocal	
Rehearsal Room	1050
Music Library	80
Practice Room	80
Office and Toilet	180
Storage	150
High School - Band	
Rehearsal Room	1600
Practice Room (4 @ 50 sq. ft.)	200
Instrument Storage	200
Instrument Repair Room	120

Educational Space	Minimum Standard Total Net Area In Square Feet
Music cont'd	
Uniform Storage	100
Office and Toilet	180
Music Library	80
Science	
Biology Laboratory (grades 10-12)	1200
Multi-Purpose Science Laboratory (grades 10-12)	1400
**Science lecture (grades 7-12)	750
Separate laboratory (Aggregate Total of 1500 sq. ft.)	750
Chemical Storage	100
Regular Storage	100
Multi-Purpose Science Laboratory (grades 7-9)	900
Secondary School Physical Education and Athletic Facilities Gymnasium	
Basketball Court (84'X 50') (**NOTE** - Arkansas Activities Association recommends 94'X 50')	4200
Seating (addressed in Appendix A)	
Physical Education Dressing Rooms (2 @ 1000 sq. ft.)	2000
Dressing Rooms for Varsity Sports (2 @ 1000 sq. ft.)	2000
Physical Education/Health Classroom	750
Elementary Physical Education Activity Room	1200
Social Studies	
Classroom	750
Special Education	
Elementary/Self-Contained Classroom	750
Secondary/Self-Contained Classroom	750
Storage	100
Resource Room	375

Educational Space	Minimum Standard Total Net Area In Square Feet
Special Education cont'd.,	
Speech Therapy	375
Storage	100
Occupational and Physical Therapy	250
Vocational Agriculture	
Classroom	750
Shop	2800
Storage, Toilet, Corridors	350
Office	100
	4000

APPENDIX A

EDUCATIONAL SPACE GUIDELINES

Individualized instruction, cooperative teaching and the need for small group and large group instructional spaces have brought about the need for flexibility in the arrangement of teaching space during the past few years. Experts recommend that school facilities be planned for flexibility rather than conform to a current concept. The initial cost of the flexible facility may exceed the cost of the traditional or open space building. However, there is some assurance that the design will not fully dictate the program and activities of the present nor the future.

Arkansas Department of Education (ADE) encourages local school districts to study the modern trends in curriculum and teaching methods and develop educational specifications involving local staff members. The educational space guidelines presented in this document are only to indicate some of the trends and should be used as a beginning point for planning.

ADMINISTRATIVE AREAS

The office area is of growing importance. The appearance and efficiency of this area will give the public a good or an unfavorable impression of the school. A central location is important. Consideration should be given to future expansion of services.

The guidance area should be separate from the principal's office, but near enough to correlate the guidance activities with the total school program. A location near the flow of student traffic is good.

The following are minimum space standards for administrative areas:

Elementary School

Reception area and general office.....200 Sq. Ft.
Principal's office.....120 Sq. Ft.

Health room(s).....150 Sq. Ft.
Health room (including nurse's office, restroom and shower facility).....400 Sq. Ft.
Teachers' workroom.....200 Sq. Ft.
Office workroom and storage area.....300 Sq. Ft.

High School

Reception area and general office.....250 Sq. Ft.
Principal's office.....120 Sq. Ft.
Other administrative personnel.....120 Sq. Ft. per office
Teachers' workroom.....200 Sq. Ft.
Office workroom and storage area.....250 Sq. Ft.
Health room(s).....150 Sq. Ft.
Health clinic (including nurse's office, restroom and shower facility).....400 Sq. Ft.

Board of Education

The trend in building office space for the board of education is to locate away from the busy traffic of the school. Consultant service may be needed as much depends upon the local situation and administrative policies of the school. The areas listed below are suggested minimums:

Reception area.....200 to 300 Sq. Ft.
General office.....200 Sq. Ft.
Superintendent's office.....150 Sq. Ft.
Other administrative Personnel.....140 Sq. Ft.(per office)
Supervisor Office.....140 Sq. Ft.(per office)
Board room.....400 Sq. Ft.
Storage and restrooms.....300 Sq. Ft.

ART

Elementary

The general art room should be designed for maximum flexibility for film, video or TV viewing, reading, lectures, exhibits, computer instruction and working in two dimensional media. These activities require special materials and processes for extra-curriculum art education activities. The art room shall be a minimum of 750 square feet, and the storage area shall be an additional 300 square feet.

Secondary

For art instruction on the secondary level, an art room shall be a minimum of 750 square feet, and the minimum storage area shall be an additional 300 square feet. The teachers with larger spaces to work in have more flexibility and greater opportunities to develop creative programs.

The average art room requires special equipment: kilns, potter's wheels, printing presses, hand tools, ceramic equipment, projectors, computers, brushes, paper cutters, etc. Other items necessary are tables, workbenches and other fixed furniture and "hardware" such as lighting and cabinets. In addition, a studio must be well supplied with "software"--paper, books, videos, slides, paints, brushes, clay--some of which can be collected in a resource center. This open or closed area is a basic library of books, slides and videos, electrical outlets for both 110 and 220 volts, and adjustable studio lights that can be projected on student work, still life arrangements, prints and other materials that should be lighted properly for display and critiques.

AUDITORIUM

Every school needs an assembly area; however, because of the cost factor, auditoriums are often eliminated from facility building plans. The usefulness of auditoriums during recent years has been increased by the use of movable, soundproof walls to divide the space into teaching areas. Some auditoriums have been designed to accommodate music programs and drama, thus enabling the school to put at least a part of the building into daily use. Others may have the seating area divided into lecture areas to ensure greater utilization of space.

Some of the uses of an auditorium are:

* Large assemblies.
* Large group instruction.
* Music performances by band, orchestra and choral groups.
* School theatrical productions.
* Large group testing.
* Pep rallies.
* Lectures.
* Various community uses.
* Science fairs, art exhibits, etc.
* Study halls.

A seating capacity of 600 people will meet the needs of most school districts; however, some needs mandate a seating capacity of not less than 1,000 people. In planning seating space, an allowance of seven square feet per person should be used. The maximum width of a seating section shall not be over 14 seats and no seat shall be more than seven seats from the aisle.

The following suggestions are given for basic consideration in planning an auditorium that will seat approximately 600 people and serve the functions that have been listed.

The facility should be designed so that it can be utilized by the entire school. The size of groups may vary from 50 to 600 people. The arrangement of space, the acoustical treatment and sight lines within the space must accommodate the variety of groups that will use the space for the various functions outlined above.

Space Guidelines

Type of Space	No.of Rooms	Unit Size	Total Space
Assembly area	2	1,250	2,500
Assembly area	1	2,500	2,500
Gallery and lobby area	1	1,000	1,000
Standard proscenium stage (including off-stage areas)	1	3,000	3,000
Storage for stage properties	1	600	600
Scenery workshop	1	400	400
Stage dressing rooms	2	200	400
Public toilets	2	150	300
Ticket office	1	100	100
Concessions	1	120	120
General storage	1	150	150
		Net total space	11,070

Description of Facilities

The following provides a brief description of the auditorium facilities:

Lecture area

This area should be divided into three spaces, two of which should seat 125 students each and one should seat 250 students. Floors should have minimum slope to provide adequate sight lines to the stage. Seating should be upholstered auditorium chairs with fold-down tablet arms. Public address systems are an essential part of the special requirements of this area.

Gallery and lobby area

This area should be planned to accommodate circulation into the seating areas. Wall areas should be planned to serve as exhibits and display space for science fairs, art exhibits and similar functions.

Standard proscenium stage

The stage should be about 50 feet wide and 40 feet deep. This will seat a band or orchestra of approximately 110-115 pieces. An additional off-stage area of approximately 1000 sq. feet should be included in the wings of the stage. The off-stage area must accommodate the switchboard and other permanent features as well as the area to handle personnel, scenery and equipment for concerts, operettas and plays. It should also accommodate stage sets for musical and theatrical performances. Special lighting and ventilation requirements must be considered.

Storage for stage properties

A large room adjacent to the stage is needed for the storage of stage properties. An open, roughly finished room can serve this purpose.

Scenery workshop

This area should be a large, roughly finished space for the construction of scenery and stage properties. Electrical outlets are needed on all walls. Equipment such as table saws, band saws, hand saws, hammers, paint brushes, etc., will be used to construct stage scenery and props.

Stage dressing rooms

Dressing and toilet facilities should be provided backstage for the benefit of those involved in rehearsal and production-type activities. Dressing rooms should have a sink, counter make-up tables and running water. Electrical outlets and good lighting are essential.

Some districts that cannot afford to construct an auditorium facility due to size or financial restraints might want to consider a cafetorium as an alternative.

Other rooms

Public toilets should be provided to meet sanitary regulations. A small enclosed ticket office should be installed in the lobby area convenient to the entrance to the auditorium. A concessions stand, equipped with a stainless steel sink, a sales counter, a work counter, electrical outlets and a pull down enclosure to secure the area, should be provided. A general storage room is also needed for miscellaneous storage.

BUSINESS EDUCATION

The last decade brought significant changes in the business office and business education classroom operations. The vehicle for these changes is the equipment we use to manipulate the information flow. Where designers previously planned for a typewriter, calculator, dictating equipment, clock and pencil sharpener. They must now plan spaces to house terminals tied to computers, printers, electronic mail transmitters, magnetic types, memory and programmable typewriters and other "information age" electronic equipment.

This new equipment also affects the office and classroom furnishings. The standard secretarial/typing return is no longer large enough to hold a programmable typewriter, microcomputer, printer or CRT. Specialized storage in the students' immediate work area is needed for magnetic disc/tapes and for documentation manuals containing instructions for operating the equipment. Cables and electrical receptacles for computers and printers are a consideration for classroom planning.

Classroom Furniture Arrangement

Careful furniture arrangement planning is perhaps the most critical part of preliminary equipment selection. Academic requirements and room dimensions affect size, type and arrangement of desks/data stations. Size of classroom furniture is a consideration. The 42-inch, L-shaped desks provide enough work space for the business education laboratories. Before purchasing these desks, determinations on the number of left and right extensions needed for each classroom arrangement should be made. Vendors provide free consulting/planning regarding classroom arrangements for their products.

Summary of Space Requirements
(Planning for 25 students)

Classroom	750 square feet
Laboratories	1,500 square feet
Space for Instructor	100 square feet
Office for Instructor	100 square feet
Reprographics/Storage Space	100 square feet
Total	2,800 square feet

Electrical Needs

Electrical Wiring: The planning for electrical wiring should begin with the architect and should be determined before construction begins. Conduit space in which to place cables for computer networked systems and to house electrical wiring should be determined before the concrete floor is poured. Computer cables and electrical wiring should be housed in separate conduits. Computers perform best with dedicated electrical wiring/circuits.

Electrical Receptacles: The electrical receptacles should be put on circuits to enable teachers to turn off all electricity to the equipment with a Master Switch in the classroom. The receptacles should be set and anchored firmly prior to the concrete being poured. The receptacles which contain the plastic housing (box) provide the best results. The receptacles should be flush with the floor and should be adapted to the floor covering (Examples: concrete, carpet, vinyl covering). Receptacles and carpeting appear to be the best combination (problems with dirt/water in the receptacles are decreased).

NOTE: Classroom furniture/equipment arrangement should be determined before electrical receptacles and wiring occurs. The number of receptacles should be carefully studied as most classrooms do not have an adequate number.

Noise/Sound Reduction

Acoustical treatment for walls, ceilings and floors should be considered. Carpeting provides excellent acoustical treatment and weather stripping on doors provides greater sound resistance. Equipment such as typewriters, printers, etc., can be purchased with acoustical hoods/devices. Much of the new business education equipment contains electronic features which reduce sound during operation.

Space Guidelines

Classrooms Minimum of 40 sq. ft. per student: business law, business math, introduction to business (business dynamics) recordkeeping, entrepreneurship (business principles and management), accounting (without computers) and business communications.

Laboratories Minimum of 60 sq. ft. per student: Business Data Processing I & II, Business Machines, Career Advancement Program (CAP) I, II & III, Computer Literacy/Keyboard, Computerized Accounting I & II, Cooperative Office Education (COE), Exploratory Business, Word Processing, Junior Executive Training (JET), Office Procedures, Office Technology Labs, Shorthand I & II, Typewriting I & II.

Space for Instructor Minimum of 100 sq. ft. per classroom: This space includes the instructor's work station/desk, demonstration stand, projection stand, file cabinet(s), L. C. (liquid chalk) marking board, permanent pull-down instructional charts. Electrical receptacles should be installed under the projection stand, demonstration stand and instructor's desk.

Office for Instructor(s) Minimum of 100 sq. ft. per teacher: This space should contain instructor(s) desk/work station(s), telephone, file cabinets, cabinet storage space and/or book shelves and electrical receptacles.

Many schools locate the office for the instructor(s) between classrooms with glass partitions so that students in both areas can be viewed at all times. Access from each classroom to the office is necessary.

Reprographics/Storage Minimum of 100 sq. ft.: This space contains the equipment used in the reproduction and preparation of documents for distribution. Examples of this equipment are photocopiers, duplicators, collators, folding machines, paper cutters, binding machines, mail scales, offset equipment and electronic stencil cutters. This work area can also be visible from the classroom(s) by using glass as a partition.

Also, storage for supplies and audiovisual equipment can be planned for this area. Shelves and/or cabinets are of utmost importance for housing these items. Working space should be planned either by using long work tables or constructing storage cabinets with work space provided on top. Many schools construct the cabinets/workspace around the wall of the classroom to provide for storage/workspace.

There are several types of configurations of microcomputer systems that are likely to become standard equipment in elementary and secondary classrooms. Included are the following:

* Classrooms with 4, 6 or 8 microcomputer systems in either a small network arrangement or as stand alone units.

* A laboratory using 8, 16, 24 or 32 microcomputer systems networked to a dual disk drive or hard disk.

* Learning centers, either in the classroom or media center, utilizing one to eight microcomputer systems with a variety of problem-solving and simulation courseware.

A microcomputer system usually includes a microcomputer, monitor and disk drive, for every four systems, there is one printer and an extra disk drive. Consideration should be given for storage of courseware and printer paper. The specifications related to each configuration described above are provided to assist in school plant planning.

BUS GARAGE

School districts with eight or more school buses will find it profitable to have its own mechanical and maintenance program. One skilled mechanic and one helper can usually maintain up to 20 buses.

The bus garage should be located away from student traffic. The garage area should be fenced with enough enclosure for parking all buses. The gasoline pump, storage tanks and an air hose need to be located away from the garage for safety and to prevent interference with work in the garage. An outside area is also needed for washing buses. Provisions should be made for hoists and exhaust outlets in work stalls. We suggest that jacks be used to work on buses, instead of the traditional grease pits.

The following are suggested areas for a garage that will accommodate up to 20 buses:

Mechanics' stalls (2) (doors 12' x 14')	2160 sq. ft.
Parts room	796 sq. ft.
Conference and driver waiting room	234 sq. ft.
Machine shop	100 sq. ft.
Toilets (2) (both men and women)	96 sq. ft.
Office	80 sq. ft.
Lubrication storage	14 sq. ft.
Total	3480 sq. ft.

The Size and Design of the School Bus Garage

Regardless of the size of the fleet, adequate office space, parts room and toilets should be provided. However, in the garage for medium and larger fleets, a drivers' lounge and a classroom for conferences and classes are desirable.

The number and size of supportive work areas as machine shop, glass and upholstery shop, and tire storage and mounting area needed will vary from one district to another.

For a fleet of less than 30 buses, special facilities for machine work, glass or upholstery shop can seldom be justified except in areas where this type service is not available from local commercial shops. In the larger fleets of 30 to 75 school buses, a machine shop may be justified. However, even in these size fleets, the extent of work done in the machine shops will vary. It is usually feasible to do brake drum grinding, but not reboring of engine blocks or the machining of engine heads. In some cities, tire repair in any quantity can be done more economically by commercial shops. The same applies to upholstery of bus seats and cutting and fitting of glass.

For fleets of more than 75 buses, the garage plan should include machine shop facilities, with the size of the machine shop varying according to local conditions and perhaps skill of employees. Also, local facilities should be considered in planning for glass and upholstery work.

The space of the office and storage for parts will vary with the size of the fleet.

Work bays should be a minimum of 16 ft. wide, 50 ft. long, 16 ft. high and equipped with doors 14 ft. wide and 12 ft. high. Paint booths should be the same length as work bays, but should be 18 ft. wide.

The number of work bays needed will vary with the size of the fleet of buses. The following guide is suggested:

Number of Buses	Number of Work Bays
10-20	2
21-35	3
36-50	1
51-70	5 (plus paint booth)
71-100	6 (plus paint booth and body shop)
101-120	7 (plus paint booth and body shop)
121-150	8 (plus paint booth and body shop)
Over 150	1 for each 20 to 22 buses
	1 paint booth for each 150 buses

One work bay may serve as a combination work bay and paint booth. The required number of work bays may be reduced if two shifts of mechanics are employed.

One work bay should be the drive-through type with a door in each end. This plan provides for the use of tow trucks. By omitting the vehicle doors at one end of the remaining work bays, additional wall space is available for installation of work benches and construction cost would be less. Windows should be installed in the wall above the work benches and consideration should be given to installation of skylights Adequate natural lighting is very desirable in a garage.

Floors should slope slightly toward the vehicle service door to provide for ease of cleaning.

Also, an inclined, paved apron in front of each work bay will reduce the accumulation of dirt in the garage.

Consideration should be given to installation of insulating material under the roof panels, especially if a metal roof is installed on the building.

Positive air movement can be provided by installing ventilation fans. This prevents a build-up of carbon monoxide, especially if employees are working with motors operating in a closed area.

The heating system should not have an open flame if located in the work area. Forced hot air from ducts or heaters approximately 12 feet above the floor level is preferred.

The fueling facility should be located so that one or more buses waiting to be fueled will not block the garage entrance or interfere with the orderly flow of traffic in and out of the work bays.

To reduce fire hazards, a concrete slab should be provided at the service pump. An electric current will be needed for the pump motor and for lighting. If gasoline is used for fuel, the pump should be at least 20 feet from the main garage building. Provision should be made for compressed air and water in or near the gasoline service facility.

If drivers' lounge is provided, it should have a separate entrance away from the office or work bays.

Fluorescent-type lights should be suspended from overhead between work bays and over work benches.

The air compressor should be installed outside the garage work bays and, as far as practicable, from the office to reduce noise interference. Also, an air compressor located in a work bay is hazardous to the safety of workmen. Square footage in a garage is expensive and can be used more advantageously than housing a compressor which needs only a cover over the motor.

CAFETERIA

In general most child nutrition programs allow 10 to 12 square feet of floor area per person seated at one time. Many schools now provide round, square or oblong tables spaced individually. While this requires more space, the transition from rigid, institutional settings makes it worthwhile.

Most schools extend the lunch period to accommodate at least two seatings daily. Close scheduling can permit three seatings daily; however, more than three seatings may result in meals being served too early or too late.

The amount of space for preparation, storage and serving will be influenced heavily by the menu. Many schools offer more than one menu choice. Some provide choices on one serving line, while others provide separate lines for different types of menus (i.e. sandwich lines, salad bars, etc.). Additional storage space, especially refrigerated and freezer space, will be required if both the lunch and breakfast programs are operated. The type of service and number of child nutrition programs should be considered early in the building planning process. It is important to provide flexibility for future needs by carefully planning layouts and making wise selections of appropriate and versatile equipment.

New preparation facilities are not recommended for fewer than 200 meals daily. Satellite service will be a more economically feasible choice for this number of meals.

Recommended Square Feet In Receiving, Preparation And Storage Area

Total Lunches Served Daily	250	500	750	1000
Loading Platform	70	70	80	100
Dry Storage Area	150	350	425	550
Kitchen Area	560	600	675	750
Serving Area	200*	400*	600**	800***
Dishwashing Area	140	200	250	300
Walk-in & Reach-in Refrig.	80	90	100	110
Walk-in & Reach-in Freezer	80	90	100	110
Office Area	75	75	75	100
Locker & Toilet Area	50	75	100	125
	1405	1950	2405	2945
Kitchen & Service Area				
Dining Area (two seatings)	1500	3000	4500	6000
Gross Recommended Areas, Dining, Kitchen and Service	2905	4950	6905	8945

*one serving line **two serving lines ***three serving lines

COMPENSATORY EDUCATION

In recent years compensatory education has become a part of the school's instructional program, especially in the field of reading. Since instruction needs to be directed towards the individual needs of students flexibility is important in planning this facility.

Class size would determine the room size; at least 40 square feet per child should be planned.

Each room should contain:

* A chalkboard at least 12' long.
* A bulletin/display board 12' long.
* At least four individual study carrels.
* Storage cabinets for instructional supplies and equipment.
* Book shelves sufficient to hold supplemental reading materials needed to meet individual needs.
* Appropriate-sized furniture.
* At least one group work table.
* At least four duplex wall electrical outlets to provide service to all areas of the room.

The room could be more adaptable if storage for individual tote trays and carpeted floors are added.

COMPUTER

There are several types of computer configurations that are becoming standard in elementary and secondary classrooms. For example:

Classrooms or Learning Centers

When several computers or terminals are in a stand alone environment or are linked to each other or to a central processing unit that is located within the room or in another location. The central processing unit networks the other computers. The computer is generally supported by one or more printers and possibly modems.

Classroom Management

Student management systems where a classroom is equipped with a microcomputer or terminal linked to a central processing unit that is usually located in the school's or district's administrative offices.

District/School Administration

School administration systems are generally located in the district or administrative offices with, in some cases, subsystems located in school administrative offices. This system can be networked to or be a part of the classroom management system as well as linked to principals, counselors, maintenance and other administrative functions.

Electrical Power

No matter what system or combination of systems, consideration must be given to the power source.

Usually separate outlets are required for:

- Micro computer (CPU)
- Monitor
- Printer
- Modem (may be built into CPU)

Also, surge protectors must be used. The amount of power required must be considered as well as an uninterrupted power source.

Network/Linking

A number of different types of wiring systems are available for network links. The computer system will dictate wiring needs. The wiring could be telephone wiring, coaxial, or ethernet (approximately 3/4" wide). Each wiring system requires a different type of wall connection.

Space

The type of computer system and the type of desks or tables being used will dictate the amount of space needed. Space needed for printers, printer paper and courseware/software should also be included in the planning.

Consideration should be given to the types of cabling used. Adequate crawl space should be provided for running overhead cable.

Lighting

No special lighting is required. Computers should not be placed where there will be a glare from windows.

Comfort

Consideration should be given to the seating used. The chairs should provide for the best posture for sitting at a computer for long periods of time.

Consideration should be given to adjustable footrests to help reduce fatigue while sitting at the computer.

Consideration should be given to the prevention of Carpal Tunnel Syndrome by providing some type of wrist rests.

Regular Classrooms

Electrical: Each microcomputer system requires at least three electrical outlets (microcomputer, monitor and disk drive). Also, a printer (one additional electrical outlet) is usually provided for every four microcomputer systems. This is the minimum configuration recommended for an elementary school classroom. A minimum of four wall electrical outlets should be made available. Four extension cords with four outlets each can provide the necessary connections to the microcomputer system components. A power surge protection device should be provided which is usually located at the wall receptacle location. Power surges are common in most Arkansas rural communities. Once a system is out of warranty, extensive damage from power surges caused by lightening is the school district's responsibility. A switch that turns all systems on or off at the same time is recommended. This is very useful at the beginning and end of each school day and during storms.

Lighting: No special lighting is required. This assures that the room meets recommended standards for a regular classroom. Microcomputer systems should not be placed near heating or cooling units or located so that students face windows without shades.

Floor Coverings: No special floor coverings are required.

Furniture: Tables (non-folding or lockable legs - wood) should be at least 30 inches wide, appropriate height depends on grade level, and at least 6 feet in length. The station using the printer will need two additional feet of length. This means in a typical elementary classroom, a six-foot table, a eight-foot table, four chairs and appropriate electrical wiring will be needed. Space needs are given below for such a configuration, as well as other configurations:

# Systems	# 6' Tables	# 8' Tables	Chairs	Minimum Room Space Needed
4	1	1	4	120 sq. ft.
6	2	1	6	156 sq. ft.
8	3	1	8	192 sq. ft.

These guidelines can also be used in planning for the use of microcomputers in English (word processing), mathematics and science classrooms.

Satellite Instruction Laboratories

Recent developments in computer technology, satellite transmission, and telephone conferences capabilities have added new dimensions to instruction and methods in many school districts.

Many districts are able to offer foreign language, advanced mathematics, and other instruction via satellite with talk-back capabilities. This talk-back capability allows teacher-student interaction to take place. In rural areas, where teacher availability is critical and financial resources limited, school administrators are giving consideration to this arrangement.

Special wiring is required for satellite instruction labs. Extra electrical outlets will be needed to accommodate television monitors, micro computers, video recorders and receiving equipment. All windows should be equipped with shades. Extra security measures will be needed to protect the considerable investment of the district. Minimum space provisions of 60 square feet per student is recommended with a minimum of 1000 square feet per lab.

Storage space for video tapes, materials and equipment is essential with 125 square feet of storage per teacher recommended.

Down-Link equipment (dish) for satellite reception requires an area free of obstruction in a south westerly direction and with approximately 28 degrees toward Zenith.

Instructional Microcomputer Project for Arkansas Children (IMPAC)

A classroom size of 750 square feet is needed for IMPAC Learning Labs. Special wiring requirements are necessary to accommodate the microcomputer, monitors and printing equipment. Details concerning IMPAC learning labs can be obtained through the IMPAC project center and plans must be approved by the project director at ADE.

Instruction Laboratories

Electrical: In addition to the electrical outlets required for each microcomputer system (microcomputer, monitor and disk drive), an outlet is needed for at least one printer, a hard disk drive and disk server. Laboratories with 8, 16, 24 and 28 microcomputer systems are recommended as feasible if one-third, one-half or all of the students use the lab during a given time block (usually 20-30 minutes). If the laboratory uses a network system, the microcomputer systems will use fewer disk drives. However, providing outlets for one disk drive per microcomputer is wise planning. Microcomputers are networked together using a small line or wire that carries signals. The line should be secured in the back of tables so that students cannot kick the line with their feet while working on the computers. A separate ground wire is needed for any network system.

A main power switch for the systems is recommended.

Lighting: Shades may be needed since glare will be a factor.

Floor Covering: No special floor coverings are required.

Furniture: Dimensions and numbers of tables needed are comparable to those used in a regular classroom. However, an entire classroom will be needed for any given laboratory configuration. An extra 8-ft. table is needed as a part of a teacher monitor station.

Systems	Number of 6' Tables	8' Tables	Chairs	Minimum Floor Space
8	2	2	9	420 sq. ft.
16	6	2	17	708 sq. ft.
24	10	2	25	852 sq. ft.
28	12	2	29	996 sq. ft.

Media Center

The guidelines provided for four or eight microcomputer systems in a classroom and for eight microcomputer networked systems in a laboratory also applies to the media center. (For more detailed information see Learning Materials Center)

ELEMENTARY INSTRUCTIONAL AREAS

Kindergarten Classrooms

Kindergarten classrooms shall contain a minimum of 750 square feet in floor space. Rooms should be self-contained as to restrooms, drinking fountains, etc. A restroom should be located close to an outside door adjoining the playground. Adequate chalkboard and tackboard space should be provided. The physical size of the children requires consideration when equipping fire exits with panic hardware. Recommended heights for panic bar installation on kindergarten exit doors is 26 inches.

Furniture should be of appropriate height for children with chairs varying from 8 to 14 inches so that all children's feet can touch the floor. Appropriate height must be considered in planning for drinking fountains, toilets, urinals, chalkboards and bulletin boards. All restrooms and drinking fountains should be handicap accessible.

One lavatory and one toilet for each instructional space, with water closet seats from 10 to 13 inches from the floor and lavatories 24 inches from the floor, is recommended. A sink, with running water and a drinking fountain should be located within the classroom. A portion of the room away from the sink should be carpeted. Classroom colors should be cheerful and inviting. Care should be taken in selecting colors that will be conducive to learning.

Adequate storage space should be provided for the abundance of materials and equipment with low, open shelving and some closed storage above children's reach. Individual cubicles should be provided for children's personal belongings. Kindergarten classrooms should be located on the first floor only. (State and National Safety Regulations).

Elementary Classrooms (Grades 1-6)

A minimum of 750 square feet per classroom shall be provided for grades 1-6. All furniture and facilities should be of functional height. These rooms should contain a minimum of 12 linear feet of chalkboard. Tackboards for displaying children's work are also important. Provisions should be made for use of audiovisual aids in the classroom. Some provisions for shelving library books should be made even though there is a central library. Carpeting is highly desirable.

FOREIGN LANGUAGES

Foreign language philosophy stresses learning for all students who have the interest and desire. This indicates that a variety of learning experiences must be provided to accommodate students with a wide variance of learning rates and degrees of motivation. To develop oral proficiency in the language, students must have equipment (tapes and tape player, or records and record player) which provides for hearing native speakers. Equipment and space to help provide these experiences must be a paramount consideration when new facilities are planned or old facilities are renovated. To be most effective, the equipment and materials should be selected to meet the needs of the existing program rather than the program fitted to the equipment available. Classrooms shall be a minimum of 750 square feet, but approximately 900 square feet classrooms are desirable. The classrooms should accommodate large and small group instruction.

Ideally, each foreign language teacher needs a classroom with electronic-mechanical equipment or a separate facility language laboratory to enable him/her to provide drill facilities and to teach electronically. In addition to this equipment, carrels with

listen/respond and viewing equipment should be provided outside the classroom or laboratory for the students to use during independent study time. A language lab is the most expensive electronic equipment used in foreign language teaching. A study to determine the specific needs of the school should be the basis for deciding whether to purchase a language lab.

Single Teacher Facility

Whether electronic stations in the foreign language classroom are overhead or on the perimeter of the room will depend on the choice of the teacher and administrators. Cost could also be a factor, as overhead installations are generally more expensive than perimeter. Both kinds of installations require consoles in addition to the teacher desk. Perimeter installations, however, may be nothing more than receptacles placed at convenient distances around the room where small groups of students may work at tables and engage in varied activities simultaneously.

Cassette recorders, record players (with earphones), videos and VCRs, etc. may be effectively used in this way. This plan may be the most feasible in small schools.

Students in a one-teacher foreign language program will need to use the listen/respond viewing equipment and other resources in the building media center for independent study. However, equipment such as an overhead projector, at least one tape recorder, a record player, earphones and videos & VCRs with accompanying materials should be located permanently in the foreign language classroom.

The classroom should have as much display space as possible. A chalkboard is needed only for teacher use in the front of the room. Adequate shelving, file cabinets and other storage space are of prime necessity.

Two-Teacher Facility

In a two-teacher facility, the two classrooms should be separated only by a small room, which is the language resource center.

Provisions should be made for visual supervision of the resource center. This could include glass panels in the walls so that classroom teachers would have visual contact. It would probably be more desirable to have provisions for an aide in the resource center.

Approximately six carrels should be equipped with tape decks and audio-active headsets and tables which would seat approximately ten students.

Resources will include taped materials, visuals (both projected and non-projected), books, magazines, newspapers and architecture and/or art models.

Whether electronic stations in the language classrooms are overhead or perimeter will depend on the financial resources and the choice of the school staff. It is possible to share the console and headsets of a perimeter system by including perimeter molding in each classroom and providing a rack to use for transporting the headsets from one classroom to the other. Although the console can be easily shared with the overhead system, it is not practical to share headsets. Therefore, only one system, either overhead or perimeter, should be selected for both classrooms.

GENERAL COOPERATIVE EDUCATION (G.C.E.)
OR INDUSTRIAL COOPERATIVE TRAINING (I.C.T.)

Classroom facilities for general cooperative education and industrial cooperative training are basically the same as far as space requirements are concerned. The optimum size of the classroom should be 1,000 square feet, but the minimum size shall be 750 square feet. This figure shall not include office space.

Electrical outlets--Since many electrical devices will be used due to the nature of instruction, a minimum of two outlets per wall should be provided.

Chalkboard--A minimum of 12 linear feet is needed.

Bulletin boards--A minimum of 15 linear feet is needed.

Storage or library space--Since a large amount of supplemental instructional materials are needed for this type of program, securable library or storage space is a must. A minimum of 100 square feet is needed. Shelves should be provided for both book and reference material storage and teaching aids storage.

Office--A private office, including a telephone, for the G.C.E. or I.C.T. coordinator is an absolute necessity for interviewing applicants, counseling students, talking with parents and employers and a place to work in completing and filing the necessary reports. An office adjoining the classroom with a window between is ideal. If the

classroom is to be used for other classes outside an office entrance should be provided. The office shall contain a minimum of 100 square feet.

GUIDANCE PROGRAM

School guidance programs offer both students and staff a variety of services. Program facilities require an area that is private, secure, quiet, yet easily accessible.

Minimum facilities required in each school building should include one or more of each of the following: office(s) for counselor(s); reception/clerical/display room(s); and group procedures room(s). The number of facilities depends on student enrollment and the required counselors.

General

The facilities should provide adequate heating, cooling, ventilation, lighting, electrical outlets, chalkboards and bulletin boards. Also, the facilities should include adequate storage closets or cabinets with locks for restricted materials and records.

In schools requiring less than a full-time counselor, the guidance facilities may be scheduled for uses by other staff members provided three conditions are met: 1) guidance uses of the facilities are given priority; 2) scheduling of the facilities accommodates the counselor's full-time equivalent job assignment for guidance; and 3) restricted materials and records must be securely stored and accessible to the counselor only.

Counselor's Office

Each school building should provide space and time for each counselor assigned to the school. Minimum requirements for each office are: 120 square feet, reasonably sound-proof, visual privacy, door locks and a telephone without an intercom unit.

If the counselor conducts confidential telephone conferences, a private line to the guidance complex is required.

Reception/Clerical/Display Room

Each counselor should be provided with a reception/clerical/display room (outer office). Minimum requirements are: 120 square feet, door locks, and adjoining to the counselor's office. In schools with more than one counselor, the reception/clerical/display room may be shared by the counselors if a minimum of 30 additional square feet is provided for each additional counselor.

Each counselor's office should have a door between the office and the reception/clerical/display room. The room may be equipped with an intercom provided it has an on-off control.

Group Procedures Room

Guidance facilities should include a group procedures room. Minimum requirements for this room are: 400 square feet, and adjoined to or near the other guidance facilities. This room may be a special purpose room and/or an extra classroom(s) scheduled for group guidance purposes. In schools with more than one counselor, the group procedures rooms may be shared by the counselors. The group procedures room may be equipped with an intercom unit provided it has an on-off control.

In addition to the outlined above requirements, consideration should be given to the following general recommendations when school buildings are constructed, renovated or altered to provide guidance facilities.

Location

Guidance facilities should be: 1) near but separate from the administrative offices, both physically and in the minds of the students; 2) near or in the flow of student traffic; 3) reasonably near the source of supply of students (examples: study hall, library); and 4) near toilets or contain a lavatory.

Other considerations

In addition to the foregoing requirements and recommendations for guidance facilities, the school staff should cooperate in making facilities available for guidance activities. Regular classrooms with "intact" classes of students are sometimes required. General meeting facilities, such as auditoriums and cafetoriums, are sometimes needed for special activities.

HEALTH

Elementary School

The self-contained room for primary grades is acceptable for health instruction. Intermediate classrooms are acceptable but should have drinking and hand washing facilities in each room. Portable teaching laboratories and storage space should be available for adequate teaching aids.

High School

The health instruction room should be based upon 40 square feet per student in the largest class, but the minimum classroom size shall be 750 square feet. The room needs to be larger than the regular classroom in order to accommodate a laboratory-demonstration table and a regular teacher's desk. Provisions should be made for the use of audiovisual aids, as well as storage for teaching aids and materials. An area will also be needed for displays and exhibits. This classroom may be located in the gymnasium.

HEALTH CARE SUITE

The preferred location for a health room is adjoining the administrative office. The room should include 150 square feet to 400 square feet of floor space.

The health area should include a waiting area and a work area. The work area should include 2' wide x 5' to 6' long base countertop cabinet with sink, a 12" wide upper wall storage cabinet over the base unit for additional storage with locked area for students' medication, hot and cold running water, locked files for health records, a desk, a telephone, cot area (one per 400 students is recommended), a toilet and lavatory room large enough to serve a wheelchair (5' x 7'), and a small refrigerator (for storage of insulin, cold packs, etc.). A separate conference room or storage room may also be included.

HEALTH OCCUPATIONS EDUCATION

A one-teacher health occupations education program needs approximately 1,865 square feet of space. Two teacher units should have an additional 750 square feet of classroom space, with 60 or more square feet for office space. A consultant should be used in planning these facilities because of the need for sinks, cabinets and shelves.

One-Teacher Area

Classroom	750 square feet
Clinical area (laboratory)	375 square feet
Storage, toilet, corridors	370 square feet
Office	370 square feet
Total	1865 square feet

Two-Teacher Area

Classrooms	1500 square feet
Clinical area (laboratory)	400 square feet
Storage, toilet, corridors	370 square feet
Office	430 square feet
Total	2700 square feet

HOME ECONOMICS

It is required that 2,400 square feet of space be provided for a one-teacher department; 3,000 square feet for a two-teacher department; and 600 square feet for each additional teacher. When possible, the home economics department should be located in the main school building or in the vocational complex. These recommendations are based on an anticipated enrollment of 20 or more students per class. For other considerations, consult with the School Plant Service Section in the ADE and with the Supervisor of Home Economics in the Division of Vocational and Technical Education.

The foods laboratory should contain one kitchen unit of 100-200 square feet per unit for each four to six students in the largest class. One of those kitchens may be portable. Space adjacent to each kitchen should be available for a breakfast or dinette table and chairs (65-85 square feet per units).

The clothing laboratory should provide for unit arrangements of 100-112 square feet per unit. This would include a table or other work surface, two sewing machines and nearby pressing equipment. It is desirable to have one unit for every four students in the largest class. Open-space planning will allow for greater space flexibility.

The washer and dryer (laundry center--32 square feet) should be located in the clothing laboratory area.

Special attention should be given to exhaust fans over ranges, lighting, electrical outlets, hot water supply, chalkboard, tackboard, book and magazine shelves and storage areas.

Storage should be planned for students' books during classes, irons, ironing boards and other pressing equipment, food labs, and other instructional and audiovisual materials and equipment.

A living area is no longer considered a priority in the home economics department. A small conversation area with one or two chairs and a table can serve as a hospitality center and may be desirable in some instance.

Other space allowances that should be provided are as follows:

Classroom	750 square feet
Office	100 square feet
Fitting room	100 square feet
Tote tray cabinet	16-32 square feet
Storage	100 square feet
Restroom	18 square feet

INDUSTRIAL ARTS

The following space allotments are required to establish total work and auxiliary service areas for one teacher to accommodate a class of 25 students.

Work area	1200 square feet
Planning area and classroom	750 square feet
Storage (supplies)	270 square feet
Storage (projects)	210 square feet
Finishing area	220 square feet
Toilet and lavatory	150 square feet
Total	2800 square feet

JUNIOR HIGH CAREER ORIENTATION PROGRAM

A career orientation facility should provide a minimum classroom size of 900 square feet, but the minimum classroom size shall be 750 square feet.

A laboratory is not required but is highly recommended for hands-on activities. If a laboratory is not accessible, hands-on activities must be provided as outlined in the "Minimum Standards for Career Orientation."

The classroom should be arranged for 17 study carrels, 3' x 4' each. Each carrel should be equipped with instructional materials according to those listed in the "Minimum Standards for Career Orientation," Division of Vocational and Technical Education. A minimum of 12 linear feet is needed for chalkboards. A minimum of one bulletin board, 4' x 8', is needed.

One electrical outlet should be provided for every six feet of wall space for all four walls of the classroom.

Office space should be provided with a minimum of 8' x 10' or 80 square feet.

A minimum of 100 square feet is needed for storage or (either stationary or portable units).

LANGUAGE ARTS

The content of the language arts program is language, literature and composition. It is the intent of this study to prepare students to think reflectively, communicate effectively and appreciate the humanistic values of our literary heritage. Proportions should give good sight lines and flexibility in pupil desk or table arrangement. The following checklist may be of assistance in planning:

* Provisions should be made for use of audiovisual aids.
* Adequate chalkboard space with high visibility.
* Adequate tackboard space.
* Facilities for displaying maps and charts.
* Files for cumulative reading reports, book reports, etc.
* Files for the teacher's supplementary materials.
* Shelving for supplementary books, magazines, files, records, etc.
* Bookcases for the classroom library.
* Display racks to display magazines, pamphlets, etc.
* Tables and moveable chairs for student activities.

* Provisions should be made for a public address system and speaker's rostrum.
* Storage space for charts, posters, etc.
* A wall clock.
* Provisions should be made for the use of television.
* A portable or collapsible stage.
* A conference area for student-teacher conferences and student-committee groups.
* Three to five personal computers with supportive software.

THE LIBRARY AND MATERIALS CENTER

The library and materials center is the center of instructional activities in the modern school program. Therefore, the area should receive comprehensive planning.

Secondary Schools

Minimum space areas for libraries on the secondary level (senior high, junior high and middle schools) shall be as follows: (These requirements should adequately handle a school enrollment of 400 students, but they do not allow for stack space.)

Reading room	1200 square feet
Office	120 square feet
Conference room	120 square feet
Workroom/production area	200 square feet
Materials/equipment storage	200 square feet
Total	1840 square feet

The area of the library reading room in larger schools should be sized as follows:

400- 999 students	--8% of the enrollment times 40 square feet but not less than 1600 square feet
000- 1999 students	--7% of the enrollment times 40 square feet but not less than 3200 square feet
000 students or over	--5% of the enrollment times 40 square feet but not less than 5600 square feet

A more functional library media center will include one or more rooms or space for each of the following:

* A library classroom.
* Teachers' professional materials library, with accommodations for seating.
* Computer lab.
* Electrical wiring and outlets to meet the needs of computer automation and reference technology.

Furniture and equipment in the library media center should accommodate the resources and services offered and be appropriate to the level of students served. Shelving should be adjustable, with heights at junior high level not to exceed 6 feet and shelving in senior high schools not to exceed 7 feet.

Workroom/production areas should be equipped with sink, running water, counter top and cabinets for storage. The equipment storage area should be a secured area and shelves should be 18" deep and adjustable.

Elementary Schools

The elementary library media program is an extension of classroom instruction. The program should be based on the overall school philosophy and objectives.

The center should be centrally located, attractive, well lighted and have good acoustics. Space should be adequate to provide areas to accommodate a variety of activities.

Minimum space areas for library media centers on the elementary level shall be as follows: (These requirements should adequately handle a school enrollment of 400 students, but they do not allow for stack space.)

Reading, listening and viewing area	1200 square feet
Office/planning area	120 square feet
Conference room	120 square feet
Workroom/production area	200 square feet
Materials/equipment storage	200 square feet
Total	1840 square feet

The area for reading, listening and viewing in elementary schools that exceed 650 students should be 7% of the enrollment times 40 square feet.

A more functional library media center will include one or more rooms or space for each of the following:

* A library classroom.
* Teachers' professional materials library with accommodations for seating.
* Computer lab.

Furniture and equipment in the library media center should accommodate the resources and services offered. Shelving in elementary centers should not exceed 5 feet. Counter top shelves should range from 36-42 inches. Workroom/production areas are to be equipped with sink, running water, counter top and cabinets for storage.

MAINTENANCE AND CUSTODIAL

These areas will affect the quality and the cost of providing custodial and maintenance services during the life of the buildings. Serious consideration should be given to the size, shape and location of all areas necessary for good school plant management.

The warehouse and maintenance shop should be located in a place accessible to truck lines and to the schools served from the central storage and shop building. These areas should be located away from academic areas in order to assure minimum interference with the instructional program.

The storage of various inventories should be considered during planning.

The size of the maintenance shop areas will be determined by several factors including the staff size crafts.

The following areas are suggested for school districts with enrollments of 1000-1500 students:

Warehouse (central storage and receiving)	900 square feet
Maintenance shop	700 square feet
Office	120 square feet
Toilet and shower	150 square feet
Total	1870 square feet

Larger enrollments require more storage and work areas.

Additional storage areas should be provided for books, furniture, fuel, lawn mowers and other equipment. A garage for school trucks and ample parking for employees should also be provided.

Custodial Areas

Custodial work areas should be strategically located in the building to provide for maximum working time of the custodial personnel. The central custodial work area should be large enough to accommodate equipment, supplies and materials. Shelving should be provided for paper goods, chemicals, hand tools, etc. Hooks or holders should be provided for hanging damp mops and dust mops.

Art and other cleaning equipment will be stored in this area.

The following areas are suggested for school districts with enrollments having about 500 students:

Central storage and work area	400 square feet
Custodial service room(s) (one room for each 10,000 sq. ft. of floor space in building)	60 square feet

A mop sink provided in each custodial work area will eliminate some heavy lifting of mop buckets. Provide water valves (vandal proof) with 3/4" hose bibb in restrooms, work areas and on outside walls.

All work and storage areas should be vented.

MARKETING AND DISTRIBUTIVE EDUCATION

Instructional activities in the field of distributive education are somewhat different than those found in the ordinary high school

classroom. Learning experiences in this area are best accomplished when students participate in simulated work experience activities. Consultants in this field place much importance on properly planned facilities and equipment.

The following material is considered advantageous in the marketing and distributive education program:

Space

Marketing and distributive education classrooms need to be larger than normal classrooms because of the nature of the facilities. The minimum size of the class shall be 750 square feet. The classroom should have a minimum of 40 square feet per pupil and be a minimum of 1000 square feet regardless of class size. If the classroom and the laboratory are to be combined, it should be a minimum of 175 percent of the classroom size.

Electrical outlets

When a marketing and distributive education class lab is designed, provisions should be made for several floor outlets and two outlets for each wall.

Chalkboard

The chalkboard should conform to all other classrooms requirements.

Bulletin boards

At least 16 linear feet of bulletin board space is necessary.

Office

Privacy is necessary for interviewing applicants, counseling students, talking with parents and employers, and for completing and filing the necessary reports. An office adjoining the classroom with a window between is ideal. If the classroom is to be used for other classes, the office should have an outside entrance.

Storage closet

A walk-in closet is necessary for storing visual aids, equipment, books, reference materials and other large items.

MATHEMATICS

A comprehensive mathematics program will require the use of materials and equipment that are not often found in regular mathematics classrooms. Schools that require the use of one or two mathematics classrooms may wish to have similar equipment in each; for three or more mathematics classrooms, a separate laboratory or resource room should be provided for books, periodicals, calculators, videos/VCRs and other teaching materials and equipment are provided. If a separate laboratory or resource room is provided, it should not be used regularly as a classroom. The size of the laboratory will vary depending upon the program.

It would be desirable to locate the mathematics classrooms in a cluster with a common office area for the staff located adjacent to the classrooms. If a separate laboratory or resource room is not provided, each classroom shall contain 750 square feet and should be equipped as follows:

Tables

Calculators, desk top computers, measuring instruments and game centers require the use of 30" x 6' all-purpose tables. Alternate plans could make use of table height ledges, individual student carrels, smaller tables and/or trapezoidal tables.

Chairs

Straight chairs should be provided for use with the tables and desks.

Desks

Table-type desks should be provided to accommodate 25 students. It is suggested that mathematical tables and formulas be painted on the surfaces of the desks.

A teacher's desk should be provided.

Provide teaching station that includes a computer with a minimum of 640K of internal memory and a 40MB hard disk drive. The station should also have an overhead projector and a PC viewer to facilitate the use of computer demonstrations to the total class.

Filing Cabinets

One or two 4-drawer filing cabinets should be provided, depending on the resources of the mathematics classroom.

Shelving

Ample space should be provided for reading materials, workbooks, kits, games, manipulatives, etc.

Storage Area

A closed locked storage area should be provided for paper, testing material, teaching materials supplies, calculators and computers, etc.

Projection Screen

One large permanent screen to be used in a large group situation should be provided.

Chalkboard

Slate chalkboard (16-32 linear feet) should be mounted on the front and perhaps one other wall. Rectangular and polar coordinate grids should be painted on the chalkboard.

Tackboard

A tackboard, at least 42" x 7', should be mounted on the wall.

If a separate laboratory or resource room is provided, it should have a wealth of materials and equipment available and a mathematics teacher or a teacher's aide on duty at all times.

MUSIC

Elementary/General Music

The general music room should be spacious, well lighted and ventilated, acoustically treated throughout. The area of the room should be at least 32' x 36' with a ceiling of 12' high.

The following minimum sizes are required:

Music room	1050 square feet
Storage room	80 square feet
Office space	100 square feet
Activity/practice room	55 square feet

Provision should be made for one chalkboard 3' x 4' with its lower edge 2' from the floor; one chalkboard 30" above the floor, 44" high and 18' long. Tackboards (cork texture) should be 30" above the floor, 44" high and 6' on each side of the 18' chalkboard. Tackboard may also be placed on other wall areas.

Electrical Outlets

At least two electrical outlets should be on each wall 4' from the floor, one or more electrical outlets at the front and rear of the classrooms and two or three double electrical outlets should be in the floor equally spaced along center line.

Special Considerations

Lighting - 70-100 footcandles of illumination
Acoustics - Reverberation time 1.5 seconds as recommended by acoustical engineers for vocal music and speech in a room 40' x 30'
Allowable background noise - 30 decibels, constant temperature and humidity controls

High School Vocal Music

A special room is needed for high school vocal music. The space requirements is about 24 square feet per student. A school of 500 students can usually depend upon 10 to 15 percent of the student body to participate in vocal music.

The minimum sizes listed below are required: (These sizes should adequately accommodate a school enrollment of 500 students)

Rehearsal room (24 sq. ft. per student)	1050 square feet
Music library	80 square feet
Practice room (1 for each 20 students)	80 square feet
Office and toilet	180 square feet
Storage	150 square feet
Total	1540 square feet

Instrumental Music

Space requirements for the band/orchestra rehearsal room is about 30 square feet per student. A high school with 500 students can usually expect 15 percent of the student body to participate in the program. In constructing the instrumental music facility, special attention should be given to the location, utilities needed, special storage facilities, soundproofing, acoustics, heating, ventilation, height of ceiling and furnishings.

The minimum sizes listed below are required: (They should adequately accommodate a school enrollment of 500 students)

Rehearsal room (30 sq. ft. per student)	1600-2250 square feet
Small ensemble rooms (2 @ 175 sq. ft. each)	350 square feet
Practice rooms (1 for each 20 students - 4 @ 50 sq. ft.)	200 square feet
Instrument storage	200 square feet
Instrument repair room	120 square feet
Music library	80 square feet
Office and toilet	180 square feet
Uniform storage	100 square feet
Total	3560 square feet

Special Considerations

The ceiling is an instrumental rehearsal room should be at least 14-16' high and the ceiling height of the choral room 12-14'; both ceiling heights should be higher if risers are used.

The interior and exterior walls of the instrumental rehearsal area and practice rooms should provide a sound transmission loss of at least 50 decibels and doors and windows provide a loss of least 45 decibels.

Temperature controls - 65-72 degrees
Lighting - 70 footcandles of illumination
Reverberation time -
  Instrumental music - .8 and 1.2 seconds
  Choral music - 1.2 and 1.6 seconds

PHYSICAL EDUCATION

The high school gymnasium should be planned for a good health and physical education program, as well as for interscholastic sports. Equipment such as roll-away bleachers and folding partitions or

dividers is suggested. The classroom area may be reduced in size if proper provisions are made for health instruction in another area of the school (see section on Health). Forced ventilation is recommended for the dressing rooms and the playing area.

The location of the gymnasium should provide for:

* Minimum of noise interference with quiet areas of school.
* Separate public entrance and public toilets.
* Access to outdoor facilities, preferably without using the school corridors.
* Locking off the gymnasium and service facilities from rest of school.
* Convenient circulation to other parts of the school plant.

The sizes listed below are required minimums to be considered in planning the new gymnasium:

Basketball court 50'x84'(with 8' on each end and 6' on each side recommended for safety).....4200 square feet
(NOTE - Arkansas Activities Association recommends the playing court be 94'X50')
Seating (500 spectators--for additional seats add 4 sq. ft. per seat).....2000 square feet
Lobby (ticket office, concession, toilets--more space needed for larger seating).....1000 square feet
Physical education dressing rooms (20 sq. ft. per student in largest class - 2 @ 1000 sq. ft).....2000 square feet
Dressing room for sports - (2 at 1000 sq. ft. each).....2000 square feet
Physical education health classroom..... 750 square feet
Elementary physical education activity room.....1200 square feet
Office and storage.....700 square feet

SCIENCE

Due to greater emphasis on laboratory activities and group work and the fact that more learning materials are necessary, greater space is needed than in the past.

The trend for science facilities is moving away from separate class laboratory areas. Combined facilities require larger rooms, but the total space requirement is smaller.

Schools with under 500 students should plan one or more multi-purpose science rooms. The multi-purpose science laboratory shall be approximately 1400 square feet in floor space, including two walk-in storage areas. The storage areas shall be a minimum of 100 square feet each in floor space and the chemical storage shall be vented (turbine-type vent recommended). If two or more rooms are involved, common storage can be provided if arranged to be readily accessible.

Student work areas arranged around the perimeter of the room are favored for most science laboratories. The sinks in such work areas should be 8' apart, and we suggest one work area per two pupils. A fume hood and an emergency shower are required whenever chemistry or physical science is taught, and we suggest the umbrella shaped shower be used.

More space is now required for Science classrooms in grades 7-9. Nine hundred square feet of floor space with some self-contained storage is required for these grades. Minimum equipment should include a well-equipped demonstration table and some laboratory work stations.

Science rooms should be located on a ground floor and have southern exposure in order to give growing plants direct sunlight. Even in windowless buildings such an arrangement would be more accessible to a needed greenhouse. Science Guidelines for the Secondary Schools of Arkansas, published by ADE, is a good source of information on planning science areas.

Safety

Science labs require controlled conditions where can take place. In experimentation environment students will use a variety of equipment, chemicals, or living organisms that may be potentially dangerous. Safety cannot be left to chance, each school administrator and teacher must be safety minded at all times. Teachers must set the example for students by following safety rules. Provisions that promote safety should be developed in planning facilities, instruction and purchasing and updating equipment.

The National Science Teachers Association (NSTA) recommends a limit of 24 students for laboratory classes. NSTA feels this is the maximum student load for class safety. Smaller laboratory class sizes would be better. ADE's science office concurs with this recommendation and adds that science classrooms and laboratories should be designed with 12 workstations for 24 students.

The science office also recommends that only science classes be scheduled in laboratories and science classrooms. This provides safety for students and preparation time for science teachers.

Safety Procedures for Science Laboratories

The State Board of Education adopted the following laboratory safety standards on May 16, 1988.

1. Safety charts must be posted.

2. First aid kits must be in all science classrooms.

3. Chemical storage space must be vented.

4. Fume hood must be in chemistry laboratory.

5. Emergency shower and eye wash station must be in chemistry laboratory.

6. Fire extinguisher and fire blankets must be in chemistry laboratory.

7. All students must wear protective aprons and goggles when using chemicals.

8. All students must wear rubber gloves when dissecting specimens preserved in formaldehyde.

9. All hazardous chemicals must be labeled with the name of the hazardous chemicals on the container. Appropriate hazard warning must be included (see Flinn Scientific Chemical Catalogue/ Reference Manual, P. O. Box 219, 131 Flinn Street, Batavia, IL 60510 or CHEMALERT Safety Guide in the Fisher Scientific Catalogue, 4901 W. LeMoyne Street, Chicago, IL 60651).

10. Chemicals must be kept under lock and key. They must be stored in a non-corrodible surface.

In addition, the "Public Employees Chemical Right to Know Law" of 1991 requires that all schools:

1. Provide safety information and training for all staff who come in contact with chemicals.

2. Compile and maintain a chemical inventory.

3. Ensure proper labeling on all chemicals. Labels should contain chemical names, safety warning relevant to the specific chemical, as well as potential hazards and first bid procedures in the event of an accident.

4. Maintain Materials Safety Data Sheets (MSDS) on file of all chemicals. The MSDS should contain similar information as in number three.

Laboratory and Classroom Design

Due to greater emphasis on laboratory activities and group work, more materials are necessary and more space is needed. A minimum of 63 to a maximum of 71 square feet per student is needed to provide space for seating, experimentation, demonstration, display and storage. Science rooms in middle, junior high and high schools should have the same space requirements and be similarly equipped. Elementary schools planning to build science rooms should follow the same guidelines.

Most science teachers prefer multi-purpose science classroom/ laboratories (minimum 1400 square feet - maximum 1700 square feet) with chemical storage (100-150 square feet) and regular storage (100-150 square feet) as shown below.

To provide for flexibility in the use of facility, a district can design a science lecture classroom that contains a minimum of 750 square feet, and utilize a science laboratory located nearby that also contains a minimum of 750 square feet. The aggregate total square footage in these two rooms shall be 1500 square feet. This design would allow a school to use the lecture classroom for other purposes when not being used for science.

All laboratories should be designed with safety as a priority. They should have two exits clearly marked to assure safe egress in the event of an emergency. Design should enable teachers to supervise all students from any point in the room. Schools in the earthquake zone should bolt all cabinets and storage units to the walls and floor.

The laboratory should be well lighted and without glare from reflected sunlight. The room should have an efficient air conditioning system.

Aisles and doorways should be clear of obstructions and be wide enough to allow passage of wheelchairs and other equipment for handicapped students.

Safety Charts and Notices

Science laboratories have great potential for injury from hazardous equipment and substances. Knowing this, the school administration should ensure that all permanent safety equipment is in place. Such equipment includes safety signs which identify possible dangers and raise safety awareness. Some specific examples are signs reminding students to wear safety goggles; signs locating fire extinguishers, fire blankets, eye washes, or emergency (deluge) showers; signs showing proper methods for conducting laboratory procedures; and signs which identify hazards affiliated with commonly used laboratory substances and a listing of emergency telephone numbers.

Fire Extinguishers

Fire extinguishers should be of the proper classification and easily accessible during emergencies. In most cases, the best extinguisher is the triclass ABC type. Extinguishers should be placed at intervals of not greater than 50 feet from any location in the building and be checked regularly.

Fire Blanket

A wool fire blanket shall be available in the laboratory. In unusually large rooms, two or three blankets may be necessary. Teachers should be able to locate a blanket, remove it from the container and reach a potential fire victim within five seconds.

Eyewash Stations

It is advisable to have several inexpensive stations located around the laboratory and storeroom. Schools might investigate the purchase of eyewash adapters which screw into existing goose neck faucets.

Safety Showers

Emergency or deluge showers of the overhead type have traditionally been installed in schools. This may not be the best choice for several reasons. First, such units are permanent parts of the existing plumbing and are expensive to move. Second, due to their expense, most schools have only one unit in a laboratory. Third, a typical overhead shower dumps water on the top of the head of the victim, while most burns or chemical spills/splashes involve the face, hands and chest area.

It may be preferable to have a number of drench hoses screwed into existing faucet plumbing at strategic spots throughout the laboratory. These units have hand operated squeeze valves with large plastic spray heads attached to six foot flexible hoses. In addition to flexibility of location, such units can spray wide areas and can be directed at critical body parts - notably the face and frontal torso area. The units can be attached with a spring to the faucet, or clamped to the side of the counter. They cost about 25% less than the average overhead shower.

All the eyewash stations and safety showers need to be tested each semester. Floor drains are a necessity in all laboratories.

Electrical Safety

Ground fault interrupters need to be installed at all electrical outlets in science laboratories. Interrupters will prevent damage to sensitive electronic equipment and will reduce the danger of injury to students caused by electrical surges. It is recommended that a single switch for gas, electricity and water be installed in the science laboratory. It is especially important that schools in the earthquake zone in the Arkansas Delta have such a switch.

Smoke and Heat Detectors

Smoke and heat detectors should be in every laboratory. Multiple units should be placed throughout the laboratory and cognate areas (storerooms, preparation rooms, closets, and offices).

Chemical Spills

A bucket of 90% sand/10% soda ash mixture, vermiculite, or "kitty litter" (dried clay particles) should be kept in all rooms in which chemicals are either handled or stored. The bucket must be properly labeled and have a lid that prevents other debris from contaminating the contents. In case of a chemical spill, any of these mixtures can be applied, allowed to absorb the chemicals, and then be swept up safely and be properly disposed of.

It is suggested that the school keep a covered, labeled container of sand in the room for application on fires involving heavy metals. The ABC "triclass" extinguisher is not effective against heavy metals.

Storerooms

Storerooms should be locked at all times with only qualified teachers having keys. If such rooms are not locked and labeled as hazardous, staff and students can properly assume there are no unusual hazards within.

Science storerooms often house quantities of flammable liquids, corrosives, compressed gases, carcinogenic chemicals, and radioactive materials. Separate storage cabinets should exist for flammables, corrosives, and solvents. The storeroom should be properly ventilated to assure that fumes are not allowed to exceed hazardous or explosive limitations and that temperatures are maintained within safe ranges (55F - 85F). Such ventilation should be active (electrical forced air fans run at certain times to pump fumes out of the storeroom and to create air movement to reduce temperatures). Storerooms should be as cool as or cooler than the classroom or laboratory.

The ventilation system should relieve pressure if an explosion were to take place. Ground fault interrupters should be in place for all electrical equipment and all electrical apparatus should be properly grounded. The heating system should be designed so that no open sparks could be created by thermostats. Floors should slope down to a floor drain which should have a protective collar to prevent entrance of undesirable substances. Doorways should have an elevated barrier to prevent spilled liquids from leaving the storeroom. Fire doors with viewing windows should separate the storeroom from adjoining rooms.

Chemical Storage

Chemicals should be stored in special locked cabinets. Equipment and chemical substances should be stored according to incompatibilities to prevent potential reactions.

The two most well-known chemical storage plans are found in the Flinn Scientific Chemical Catalogue/Reference Manual or the CHEMALERT Safety Guide in the Fisher Scientific Catalogue (see addresses in State Board Standards). Schools should use one of these plans and design their storage rooms accordingly.

All storage shelves should have raised lips (1" finishing board attached to the front edge of the shelf) to prevent glass containers from rolling off the shelves. Shelves should be attached firmly to floors and walls to prevent them from falling forward. Heavy objects should be stored only on the floor or on lower shelves.

SOCIAL STUDIES

The purpose of social studies in Arkansas schools is the development of enlightened citizens who can function effectively in local, state, national and international communities.

The following information may be helpful in planning this area:

Furniture - Provisions should be made for 25-30 student stations. Single student desks or tables and chairs may be used, depending upon teacher preference. All students in social studies classes should have access to computers.

A conventional teacher's desk, a lectern and a large display table should be provided. Tables and chairs for the planning areas and a sink and work counter will be needed for the project area.

Equipment and Teaching Aids - Provisions should be made for the following:

- Twenty linear feet of chalkboard, a small pegboard area and maximum tackboard area.
- Portable chalkboard for planning areas.
- Current maps, globes, charts, reference books (e.g., dictionary, atlas). Materials for projects or presentations (e.g. poster board, felt-tipped markers, poster paper newsprint).
- A multitude of audio-visual materials are mandatory for effective classrooms today, not limited by, but certainly including tape players and recorders, VCR player, recorder and monitor, and camera.
- Tape recorder, radio, record player and video cassette recorder.
- Shelving and display racks for newspapers, magazines and books.
- Display racks for projects.

Storage - Provisions should be made for the following:

- At least one five-drawer filing cabinet.
- Storage for maps, charts and other equipment and supplies.
- Shelving for reference books.

SPECIAL EDUCATION

When planning and selecting the facilities for use in the special education program, the following information should be considered:

Self-contained Classroom

The special education self-contained room shall be at least 750 square feet in area as a variety of the nature of the program should be considered in locating and/or designing the room. Toilet areas should

conform to American National Standards Institute (ANSI) specifications for the accessibility of physically handicapped students. There should be a minimum of 100 square feet of storage space, part of which needs to be enclosed. A sink with hot and cold water, as well as a work counter, are recommended for the elementary level, self-contained classroom.

Resource Room

New construction of a special education resource room, in order to provide for flexibility in present and future programming, should be 750 square feet of floor space, but the required minimum is 375 square feet.

Speech Therapy Room

The speech therapy room should be a minimum of 520 square feet, but the required minimum is 375 square feet. The 520 square feet allows 100 square feet for storage. A small chalkboard and bulletin board, as well as a long mirror, are also required. The room should be located in an area with a minimum noise level. Modifications to reduce the noise level should be considered when a room cannot be relocated.

Occupational and Physical Therapy Room

The size of these rooms shall be a minimum of 250 square feet.

Architectural Barriers

Those that limit student access to a special education program must be eliminated. School districts planning special education facilities and/or the elimination of architectural barriers in existing facilities should refer to ANSI's specifications for making buildings and facilities accessible to and usable by physically handicapped people, A.N.S.I. A117.1-1977.

With regard to architectural barriers, ADE will be referring to Section 504 of the Rehabilitation Act of 1973, Public Law 93-112.

VOCATIONAL AGRICULTURE

A vocational agriculture department with one teacher needs approximately 4000 square feet in area. Two teacher units should be approximately 5500 square feet, with two classrooms, two offices and one large shop area. The facility should be arranged so the teacher can observe the classroom and the shop from the office. The

classroom(s) must be located adjoining the shop. The building should have one large door to move tractors and equipment into the shop for instructional purposes. The electrical outlets should be properly located for the large equipment and adequate outlets provided for small equipment. The shop should have a wash-up area located in the open space so the teacher can observe students at clean-up time. The shop is to have the 14 shop areas designated. The small hand tools to be used in developing the given shop skills must be stored in a cabinet in that work area. (Example: welding tools in welding area). The welding area must have an exhaust system to remove harmful fumes from the building. The shop should be zoned and color coded to help prevent accidents. Safety should be considered at all times in planning a facility and locating equipment. The facility may be a part of the main high school building.

Contact the agriculture education staff in the Division of Vocational and Technical Education if additional information is needed.

Minimum required sizes for the one-teacher unit are as follows:

Classroom	750 square feet
Shop	2800 square feet
Storage, toilet, corridors	350 square feet
Office	100 square feet
Total	4000 square feet

TRADE AND INDUSTRIAL EDUCATION

Subject Area	Minimum Sq. Ft.
Auto Body Repair	4000
Auto Mechanics	4000
(1000 square feet for each ASE specialty area	
Building Trades	3000
Cabinet and Furniture Making	3000
Commercial Art	2000
Cosmetology	2500
Drafting	2000
Electronics	2000
Exploratory Trade and Industrial	2000
Exploring Industrial Technology Education	2000
Graphic Arts	3000
Heating, Ventilation and Air Conditioning	2000
Industrial Controls	2000
Industrial Equipment Maintenance	3000
Machine Tool	3000
Major Appliance Repair	2000
Radio and Television Broadcasting	2000
Small Engine Repair	2000
Welding	3000

APPENDIX B

PLANNING FOR MODERN EDUCATION

It is essential that modern facility planning consider the needs of the total educational program and philosophies of the local district. A process for identifying these needs must be established so that immediate and long range strategies can be developed.

The planning process should begin with a self-study under the direction of the superintendent of schools and the local school board. Private consultants are available to conduct the survey, and specialists from the Arkansas Department of Education (ADE) may be requested. The most commonly used method of conducting the study is to select a committee composed of school staff, board members, citizens, representatives from ADE-General Division, and institutions of higher learning. A student council representative may also be selected. It is important to understand that all input is valuable and should be weighed carefully during the self-study process.

SELF STUDY PROCESS

The early phase of the study concerns information related to the total school district and the present school program. The next phase of the study should be a comprehensive survey of present school facilities. Recommendations resulting from the information gained usually include new facilities or additions, alterations or modernization of present facilities.

Areas of this phase of the study are as follows:

School Sites

*Size
*Utilities
*Site development
*Accessibility
*Location

Facilities

*Location
*Modernization possibilities
*Type and condition of structure
*Expansion possibilities
*Number of teaching stations
*Size & condition of related areas
*Adequacy of teaching stations

SUGGESTED TIMETABLE FOR PLANNING FACILITIES

The planning schedule is important. In most cases, 15 to 24 months could be used from the beginning of the planning study to the time the improvement program is presented for voter approval.

The following time schedule is suggested:

Eighteen to Twenty-Four Months Before Bond Election

*School board authorizes planning study
*Study committee members are appointed and study begins
*Educational consultant, architect and other needed specialists retained

Twelve to Eighteen Months Before Bond Election

*School board accepts study results
*Loans and Bond Office, ADE is consulted
*Locate possible school sites
*Start planning of educational specifications
*School Plant Services Section, ADE is consulted
*Consult Fiscal agent
*Staff members visit modern school facilities

Five to Ten Months Before Bond Election

*Finalize educational specifications
*Submit application for bond issue
*Finalize publicity campaign for bond election
*Preliminary plans and specifications are reviewed and approved by Department of Public Health
*Develop policy on local supervision of construction
*Prepare final plans and specifications
*Finalize policy on purchasing equipment and furnishings
*Finalize site
*Review local problems of construction
*Preliminary floor plans are reviewed and approved by School Plant Service
*Preliminary plans and specifications are reviewed and approved by the State Fire Marshal
*Preliminary plans and specifications are reviewed and approved by State Building Services

March - April

December-January Before School Bond Election

*School board finalizes budget
*Plans are made for publication of notices for school election
*Final plans and specifications for construction are adopted pending outcome of election
*Plans are made for publication of annual school budget
*Attorney checks wording of ballot
*Plans are made for printing ballot

Soon After Election

*Review final plans and specifications
*Advertise plans for bidding
*Sell bonds
*School board accepts bid and authorizes construction

SUGGESTED INVOLVEMENT LIST FOR PLANNING

The involvement of key people in the planning process is very important. An educational plan is handicapped unless the community is informed and accepts the program. Staff members will be happier working in the new facility and will assist in selling the improvement program if they are involved in the planning process. The following is a suggested general involvement list:

The Board of Education

*Represents community
*Adopts school policies
*Approves funds for studies
*Makes judgment on projects

The Superintendent and Administrative Staff

*Administers school board policies
*Provides educational leadership
*Serves on study committees
*Approves funds for studies
*Makes recommendations on educational needs

The Instructional Staff

*Assists administration in leadership role
*Serves on study committees
*Advises on educational needs

The Non-Teaching Staff

*Participates in studies

*Provides advice in their particular field

The Students

*Student leaders participate in studies

*Relate to student body and the community

The Citizens of the Community

*Advise board of education on determining school policies

*Serve on study committees

*Support improvement programs

The Educational Consultant

*Employed by board of education

*Provides advice on educational program

*Interprets educational specifications

*Is resource person for staff orientation

*Is resource person for preparation of educational specifications

*Assists with educational surveys

*Is resource person for selection of equipment and furnishings

The Professional Designer

*Employed by board of education

*Advises board and study committees

*Prepares plans and specifications

*Administers contract

*Spot-checks functioning facility

*Designs new facilities

*Estimates building budget

*Assists with bidding process

*Advises on completed facility

The Fiscal Agent and the School Attorney

*Employed by board of education

*Advise board on property titles

*Advise board on contracts

*Advise board on school bonds

*Advise board on other legal matters

*Advise board on election procedures

ADE SERVICES TO LOCAL SCHOOL DISTRICTS

School Plant Service, ADE, has the following services available:

Facility Surveys and Evaluations

*School sites
*Buildings
*Furnishings
*Equipment

Planning New Facilities, Additions and Renovations

*Site selection
*Interpretation of accreditation standards
*Space estimates
*Estimation of building budget
*Evaluation of new plant
*Student population projections
*Preparation of educational specifications
*Evaluation of floor plans
*Evaluation of materials and equipment

Facility Management

*Maintenance and operations surveys
*Custodial clinics
*Special problems
*Workshops

Interpretation of State Laws and Regulations

*Plans and specifications
*Contracting
*Architectural services
*Advertising and bidding

ADMINISTRATION OF THE IMPROVEMENT PROGRAM

EDUCATIONAL SPECIFICATIONS

Purpose

Educational specifications are a major aspect of any school building program and can best be described as the educator's written description of the program and activities to be housed in the new facility. Many facilities have been designed with inadequate information concerning the purpose of the building. These written specifications should describe the educational program and all related activities. The written plan will give the architect a base upon which to design the facility, which will ensure a more adequate building.

PERSONNEL

There may be a need for professional educational consultant services throughout the planning process. This service is especially needed in evaluating the educational program, surveying and evaluating facilities, developing the educational specifications, choosing equipment and orientation of the staff. Consultants should have professional training and experience in modern educational theory, the latest teaching methods & school plant planning. A written contract should be executed for this service.

PROCEDURE

The school board and the school administrator are responsible for preparing educational specifications. Importance should be placed upon the fact that each community and school have special needs and aspirations. The cooperative committee approach seems to produce good results. The educational consultant, architect, administrative staff, teachers, school operation personnel, lay citizens and students should take part in the study.

The following chart is one example of an organization for this study:

School Board

Superintendent

Project Director

Educational Consultant		Architect
	Steering Committee	
Elem. School	Junior High School	High School
Chairman Area Committee	Chairman Area Committee	Chairman Area Committee

The educational planning director and chairman for each school should be experienced educators and effective organizers. The project director should be provided with an adequate clerical staff. The majority of the steering committee should be educators with broad knowledge in public education. Area committees should include experienced teachers in the subject area.

Examples of topics that might be used in determining elementary area committees:

- Primary
- Intermediate
- Food service
- Assembly-multi-purpose
- Administrative
- Art
- Music
- Physical education
- Guidance
- Special education
- Site planning (play areas, pupil transportation, parking, service drives and relationship of spaces)
- Storage and work space for custodians and maintenance personnel
- Teacher planning and work space
- Library and media centers
- Computer technology

A secondary planning group may find need for considering the following areas:

- Administration
- Agriculture
- Art
- Assembly-drama and language group instruction
- Business education
- Food services
- Guidance
- Language arts
- Health, physical education and driver education
- Storage and work space for custodians and maintenance personnel
- Vocational and technical
- Homemaking
- Industrial arts
- Foreign languages
- Social studies
- Mathematics
- Library and media center
- Music
- Site planning (pupil transportation, parking service drives and relationship of spaces)
- Special education
- Student activities
- Teacher planning and work space
- Computer technology

Suggested construction economy measures

School board members and administrators are concerned with achieving economy in building programs. A summary of the recommendations of many authorities on school building construction economy is as follows:

* Competent professional help in planning the program.
* Complete, accurate and clear plans and specifications.
* Competitive bidding on the project.
* Ample time for bidders to plan.
* Time the bidding to secure desirable prices.
* Fire insurance rates in planning the structure.
* Performance type building codes.

* Avoid over-design in the structural framing.
* Short and simple exterior walls.
* Keep ceiling heights low and consistent.
* Repetitive modular designs.
* Eliminate fancy decorations.
* Use large building material units.
* Simple designs.
* Size affects project costs.
* Simple finishes.
* Reduce amount of glass areas.
* Reduce amount of hand cabinet work.
* Provide toilet facilities for actual needs.
* Purchase equipment outside the building contract.

Recent research has shown that the four most important factors that affect the cost of school facilities are:

* Size of project.
* Compactness of facility.
* Type of interior walls.
* Finishes, such as wainscoting and baseboards.

Savings in the initial cost of a structure does not necessarily mean lifetime economy. Construction economy means getting a functional and a safe building that requires minimal costs for building, operating and maintaining over a 20- to 30-year period of use. Areas of a school building that are likely to be shortchanged in cost cutting efforts are classroom lighting and type of floor covering material used. From a health and safety viewpoint, the lighting is not an area for economizing. Savings in the initial floor covering may result in lifetime maintenance costs considerably above the original cost of the floor material.

Economy in schoolhouse construction implies the wise and carefully managed expenditure of school funds to assure facilities which are appropriately functional in terms of the educational program. In the search for economy, the underlying principle should be the quality of service provided in relation to the total cost over the lifetime of the facility.

Plans and specifications

Information gained in the planning process, including the educational specifications, will give the architect a good design foundation. Preliminary drawings may be used to determine the general style of architecture and will also give the school board a realistic estimate

of the cost. All personnel concerned in the planning process should review these plans. Preliminary plans are required by regulation to be submitted to the ADE School Plant Service for review.

Final drawings and specifications are technical and are the responsibility of the architect. The architect will, however, need the cooperation of educators involved in designing all areas. The school board will approve the final plans and specifications after a thorough review.

The following outline is suggested for making this review:

School Site

*Grading and landscaping
*Location of buildings
*Location of walkways and driveways
*Location of parking areas
*Location of outdoor instructional areas
*Location of future expansion areas

Instructional Spaces and Related Areas

*Size
*Built-in equipment
*Types and quality of finishes and coverings
*Climatic control
*Acoustical control
*Types of openings and hardware
*Space relationship

Selecting School Site

In selecting a school site, a district should consider all desegregation measures planned by or previously established within the district. Before a school site is examined, an overall plan should be created to indicate the district's anticipated desegregation needs for several years. This plan should detail issues affecting a district's ability to establish and maintain the optimum desegregation of its students. The inclusion of city or county population growth projections, planned developments or annexations, and other pertinent information in the overall plan will aid district personnel in specific facility planning decisions.

A district may elect to establish a liaison with city and county officials to ensure cooperative planning for city, county and school district development. It is also important to note that the ability of neighboring districts to establish and or maintain desegregation must not be impeded by school site selection. Thoughtful planning and careful consideration of community relationships should lead to the selection of an advantageous location.

Careful planning should go into the selection of the school site. The location, size and beauty of the school site are of much importance to the educational program of the future. The trend is for larger areas for buildings, outdoor teaching areas, playgrounds and parking areas. Periodic surveys are advisable so that the school district may project its plans into the future. Real estate near a school is soon occupied, and for this reason it is advisable to acquire enough space for future growth with the initial purchase. Growth trends should be studied in order that sites may be purchased before development is fully accomplished in a given area.

The school site should be near the center and accessible to the population to be served. Utilities needed should be available at a reasonable cost. Elevation, drainage and subsoil should be studied. The environment of the area, future growth of highways, factories and commercial firms should be considered. Development of the school site is very important. School districts are urged to allocate an adequate budget for landscaping and the proper development of driveways, loading areas and parking areas. Driveways and parking areas should be designed to alleviate traffic problems. The traffic pattern should be planned so that regular traffic is separate from school bus loading areas and driveways.

When selecting the site for new construction, the requirements of Act 1100 of 1991 need to be considered. This Act addresses the seismic resistance qualities needed in any new construction.

Minimum recommended School Site Size

Wise planning might call for additional space added to these minimum figures to provide for community use of school facilities and unforeseen changes in future educational planning.

Elementary School Site

Ten acres is the minimum recommended size for any elementary school site. This would be sufficient for up to 300 students and an additional one acre should be added for each additional 100 students above 300.

Junior High or Middle School Site

The minimum recommended size for any junior high or middle school site is 20 acres. This would be sufficient for up to 500 students and an additional one acre should be added for each 100 students.

65

Senior High School Site

The minimum recommended size for any senior high school site is 30 acres. This would be sufficient for up to 600 students and an additional one acre should be added for each additional 100 students.

Kindergarten - Senior High School

Some small districts have their total system combined on one site. The minimum recommended size for any kindergarten-senior high school site (total campus) is 40 acres. This site would be sufficient for up to 600 students and an additional one acre should be added for each additional 100 students.

FINANCING SCHOOL CONSTRUCTION

Commercial Bonds

School districts usually sell commercial bonds to raise funds for major improvements including construction, repairs, additions or alterations to facilities or for purchasing school sites and equipment. Bond issue applications must be submitted to the State Board of Education for approval and must be secured by the pledge of specific debt service millage for the retirement of the bonds.

Application forms for a permit to issue commercial bonds are furnished by the Loans and Bonds office in ADE, Finance and Administration. Assistance and consultative services are also available to school administrators in this office upon request.

Administrators and others are reminded of the statutory debt limitation of 18 percent (18 percent of assessed valuation less outstanding bonded and non-bonded debt of the district) for Arkansas schools. The State Board of Education may approve a district for 21 percent because of "unexpected, unforeseen or extreme hardship." Hardship has been defined by the State Board primarily to mean fire, tornado, flood and extensive consolidation and sold for the purpose of refunding outstanding bond issues, for a rededication of millage at the annual election or refunding at a lower interest rate.

School districts planning a commercial bond issue must have approval of the electorate of the district in the annual school election held in September each year as well as approval of the State Board in a quarterly meeting (March, June, September and December). Applications must be submitted on approval forms to Loans and Bond office 30 days prior to the State Board meeting on approval forms. One exception to the above procedure is second lien (or second mortgage)

bonds, which may be issued only with State Board approval under certain (limited) conditions. A legal opinion from a recognized bond approving attorney is also a requirement for a commercial bond issue.

Preparing the school budget, the official statement, securing a legal opinion from a bond approving attorney and related activities associated with a bond issue are complex and are matters with which many school administrators have had little experience. Because of this it is recommended that school boards and superintendents explore the subject of employing a fiscal agent to handle the details of a bond issue for the district. A fee, which varies according to the size of the bond issue, is charged for this service which usually includes preparation of budget, borrowing power data, legal notices, preparation of official statement, legal opinion, arranging of sale and other details related to the bond issue. Names of investment bankers who are available for fiscal agent services may be obtained from the Loans and Bonds office. Fiscal agent's fees are usually paid only when a bond issue is approved by local voters.

Commercial bond issues can only be approved in the regular annual September school election in Arkansas, with the exception of certain emergency cases (AR Code-6-14-103).

Revolving Loans

All Arkansas schools have access to the Revolving Loan Fund which is administered by the State Board of Education. Money borrowed from this fund may be used for repairs and additions, new construction, school equipment, sites, school buses, payment of insurance premiums (that extend three years or longer) and funding legally outstanding post-dated warrants (issued for purchase of buses, equipment and insurance premiums). The amount of the loan depends upon the current student enumeration. Schools with an enrollment of 2000 or less may borrow up to $200,000. A school with a student enrollment of 2000 to 4000 may borrow $250,000, and a school with an enrollment of more than 4500 may borrow up to $300,000. The 18 percent of the latest assessed valuation applies here as in the commercial bond issues (21 percent in approved hardship cases).

Application forms may be obtained from the Loans and Bonds office. Revolving loans require approval of the State Board and properly executed applications must be submitted to the Loans and Bonds office at least 30 days prior to the quarterly meeting of the Board. When applications are made for construction funds from the Revolving Loan Fund or a commercial bond issue is planned, the school district is required to submit plans for the new construction to School Plant Service for approval. Assistance to reviewing a district's financial status or for making loan applications is available upon request from the Loans and Bonds office.

The Legal Consultant

School districts need the services of a legal consultant. The attorney will be needed the construction program. Legal advice will be needed on bond elections*, selling school bonds*, validating land titles, reviewing contracts and other legal matters. A written contract should be executed for this service.

* Most fiscal agents provide this service.

LAWS AND REGULATIONS

The School Board, through the superintendent of schools, should require the school attorney and the architect to certify that all regulations, codes and laws are being followed before construction starts on a school facility. A few state laws, codes and regulations must be observed carefully. Official regulations of the State Board of Education and other state agencies are to be considered the same as state law.

Revolving Loans and Bonds Issue

The State Board of Education is required to approve all revolving loans and bond issues for school construction (regulations dated September 12, 1955 and March 9, 1970). Applications should be submitted at the school election in September.

Asbestos contractors

All contractors performing asbestos inspections, three year reinspection or preparing asbestos management plans for the district must meet the certification requirements of the Environmental Protection Agency. These requirements and other regulations concerning asbestos management are addressed in Asbestos Hazard Emergency Response Act (AHERA) of 1986.

Contractors performing asbestos abatement projects are required to be licensed by Arkansas Department of Pollution Control and Ecology (Act 394 of 1985). ADPC&E implemented new state regulations governing asbestos abatement in November of 1990. Notification must be given to ADPC&E ten days in advance of any asbestos abatement project.

Building Codes

Building codes must be followed, including local city codes. In the absence of local city codes, it is standard procedure to follow the Southern Building Code. In case of conflict in codes, the stronger or most severe code shall be followed.

School Fire and Safety Regulations

Corridors - The minimum requirement on the width of an interior corridor is six feet of clear path.

Fire Extinguishers - There shall be at least one fire extinguisher for each 100 linear feet of corridor space or one fire extinguisher for each 2,200 square feet of floor space in large areas such as auditoriums, etc. (The recessed cabinet is recommended for fire extinguisher storage and the six and one-half pound ABC dry chemical fire extinguisher is also strongly recommended.)

Fire Alarms - A battery or a generator-powered fire alarm is required in addition to some form of manual alarm system. (The sound of the fire alarm should be different from that of the regular bell system.)

Strobe Lights - It is recommended that all gymnasiums and cafeterias have strobe lights attached to the fire alarms in these two areas because of the noise when students are present.

Panic Hardware - Required on all exterior doorways.

Exit Lights - Required on all exterior doorways.

Travel Distance to Exits - Should not exceed 150 feet or 200 feet with fire prevention sprinklers.

Fire Doors - Required on all boiler rooms.

Heating Units - Required to be vented.

Electrical System - Required to meet the National Electrical Code.

Classroom Doors - Doors shall swing in the direction of exit travel when:

(a) used in an exit enclosure, or
(b) serving a high hazard area, or
(c) serving an occupant load of 50 or more.

Doors should be staggered or offset in order not to block the corridors.

No screen doors or storm doors in connection with any required exit shall swing against the direction of travel in any case where doors are required to swing with the exit travel.

Interior Corridor Walls - Shall not have windows or glass transoms.

Windowless Classrooms - Shall have an alternate exit door or an approved automatic sprinkler system.

Carpeting and Pad - Should have a two-hour heat retardation rate. (This is strongly recommended but not an absolute requirement.)

Distance Between Buildings - Recommended to be at least 20 feet.

Bidding, Contracting, and Administration of Construction

The school board and the superintendent should strive to see that legal requirements are complied with in relation to advertising for bids, insurance, bonds, contracts, building codes and other regulations.

Bidding and contracting will be completed at a legally called meeting of a school board with a quorum present. The architect will assist with the bidding process. The decision of awarding the contract is a school board responsibility and the contract is usually awarded to the low bidder. Legal complications should be thoroughly explored before the contract is awarded to a contractor other than the low bidder. The plans and specifications should include a specified time limit for negotiations in case the low bid is above the building budget.

Considerable supervision and many administrative details should be handled by the school administrator or his representative to protect the interest of the school district. Administrative responsibility of the architect does not include his personal presence on the site at all times. The architect should make the supervisory visits according to his contract and should furnish the school administrator and the school board written reports on these visits. Some supervision on the local level is highly recommended and the school maintenance supervisor or the school engineer is sometimes used as the local supervisor. A clerk of the works with special construction knowledge is recommended on large projects. The school representative should deal directly with the architect.

FINALIZATION OF THE IMPROVEMENT PROGRAM

INSPECTION AND ACCEPTANCE OF THE NEW FACILITY

A preliminary inspection should be made by the architect and the contractor. The contractor should be responsible for removing any rubble and unused materials from the site. Furniture should not be moved into the building or any use made of the facility before the final inspection.

The architect, contractor, school board members, school superintendent and the school maintenance supervisor should make the final inspection. A detailed inspection should be made by using a checklist based upon final plans and specifications. If defects are found, final payment and acceptance should be made by using a checklist based upon final plans and specifications. If defects are found, final payment and acceptance should be delayed until satisfactory corrections are made. The date and time of the final inspection and acceptance should be recorded in the minutes of an official meeting of the local school board. (Operational instructions and warranties on all mechanical equipment should be delivered to the school administrator.)

PUBLIC DEDICATION

The dedication program is a public relations tool that should not be overlooked. Local patrons and tax-paying citizens will be interested in seeing and hearing how their tax funds are being spent. A good improvement program can be presented to the public in such a way that future improvements will meet good reception.

The agenda for the program should include the personnel involved in planning the new facility. Printed information describing the facility and giving a detailed cost breakdown for each major area, furnishings and equipment should be made available to the patrons of the district.

An open house, with guided tours through the new facility, is a very desirable and rewarding activity.

APPENDIX C

SCHOOL CONSTRUCTION LAWS

Introduction

This appendix is a collection of the Arkansas statutes that govern all aspects of school construction and other related matters.

In the past, a great deal of confusion has existed concerning these laws, their interpretation, and application. This appendix represents an effort on the part of the staff of the Arkansas Department of Education's School Plant Service Office to help school administrators correctly interpret and apply these statutes.

These laws cover the bidding procedures, bid preferences, contract award procedures, bonding requirements, contractor and subcontractor licensing requirements, engineering requirements and architectural requirements involved in constructing new school facilities. This appendix also includes the laws concerning constructing additions to or making major repairs and alterations to existing facilities.

The following pages will reflect the actual wording of the listed statutes. In an attempt to further clarify some of the statutes listed, examples illustrating circumstances under which the law is applicable are also cited.

Questions concerning the statutes or examples cited in this appendix should be directed to the School Plant Service Office at the Arkansas Department of Education or your local school district's attorney.

Bidding, Advertising and Contract Award Requirements

6-21-301. Definitions.

As used in this subchapter, unless the context otherwise requires:

(1) "Purchasing official" means the board of directors of any school district or a lawfully designated agent of the school district with authority to contract or make purchases on behalf of the school district;

(2) "Commodities" means all supplies, goods, material, equipment, machinery, facilities, personal property, and services, other than personal and professional services, purchased for or on behalf of the school district;

(3) "Purchase price" means the full sale or bid price of any commodity without any allowance for trade-in;

(4) "Purchase" means and includes not only the outright purchase of a commodity but also the acquisition of commodities under rental-purchase agreements, lease-purchase agreements, or any other type of agreements whereby the school district has an option to buy the commodity and to apply the rental payments on the purchase price thereof;

(5) "Open market purchases" means those purchases of commodities by any purchasing official in which competitive bidding is not required.

6-21-303. Rules and regulations.

The board of directors of each school district shall prescribe the method of soliciting bids by regulation and may adopt other rules and regulations governing the procurement of commodities.

6-21-304. Manner of making purchases.

All purchases of commodities by any school district, except those specifically exempted by 6-21-305, shall be made as follows:

(1) In each instance in which the estimated purchase price shall equal or exceed five thousand dollars ($5,000), the commodity shall be procured by soliciting bids, provided that the purchasing official may reject all bids and may purchase the commodity by negotiating a contract. If the purchasing official, after rejecting all bids, determines that the purchase should be made by negotiation, then each responsible bidder who submitted a bid shall be notified of the determination and shall be given a reasonable opportunity to negotiate;

(2) Open market purchases may be made where the purchase price is less than five thousand dollars ($5,000);

(3) No purchasing official shall parcel or split any item or items with the intent or purpose to enable the purchase to be made under a less restrictive procedure.

6-21-305. Exemptions from bidding requirements.

(a)The following commodities may be purchased without soliciting bids:

(1) Commodities in instances of an unforeseen and unavoidable emergency; provided, no emergency purchase shall be approved by the superintendent unless a statement in writing shall be attached to the purchase order describing the emergency necessitating the purchase of the commodity without competitive bidding;

(2) Commodities available only from the federal government;

(3) Utility services, the rates for which are subject to regulation by a state agency or a federal regulatory agency;

(4) Used equipment and machinery;

(5) Commodities available only from a single source;

(b) However, the purchasing official must determine in writing that it is not practicable to use other than the required or designated commodity or service, and a copy of this statement shall be attached to the purchase order.

(NOTE) Although it is not required by law, the Arkansas State Building Services recommends that school districts implement the following bid procedures for the procurement of labor and construction contracts that cost $40,000 or less:

1.	$1.00 - $300.00	Small order, no bidding required.
2.	$300.01 - $2,000.00	Telephone quote bids, minimum of three (3).
3.	$2,000.01 - $40,000.00	Advertise once in a newspaper having circulation published in the county where the school is located and open bids 7 days after ad date. The 5% bid bond is required and if any bid exceeds $20,000, a 100% performance bond is required.

6-21-603. Interest in certain contracts unlawful - Exception.

(a) It shall be unlawful for any member of the school board of any district to be interested directly or indirectly in any contract or purchase made by the district of which he is a director if the contract or purchase is for an amount in excess of five hundred dollars ($500).

(b) Provided, this prohibition shall not apply to contracts for materials bought on open competitive bid and let to the lowest bidder.

19-11-259. Preference among bidders.

(a) DEFINITIONS. These definitions shall not be applicable to other sections of this subchapter. As used in this section, unless the context otherwise requires:

(1) "Public agencies" shall mean all offices, whether constitutional or otherwise, departments, boards, commissions, and institutions of the state, counties, municipalities, and all political subdivisions thereof;

(2) "Lowest qualified bid" shall mean the lowest bid which conforms to the specifications and request for bids;

(3) "Firm resident in Arkansas" shall mean any individual, partnership, association, or corporation, whether domestic or foreign, who:

(A) Maintains at least one (1) staffed office in this state;

(B) For not less than two (2) successive years immediately prior to submitting a bid, has paid taxes under the Arkansas Employment Security Act, 11-10-101 et seq., and either the Arkansas Gross Receipts Act, 26-52-101 et seq., on any property used or intended to be used for or in connection with the firm's business; and

(C) Within the two-year period, has paid any taxes to one (1) or more counties, school districts, or municipalities of the State of Arkansas on either real or personal property used or intended to be used for or in connection with the firm's business.

(4) "Commodities" shall mean supplies, goods, material, and equipment of every kind and character;

(5) "Nonresident firm" shall mean a firm which is not included in the definition of a "firm resident in Arkansas."

(b) PREFERENCE OF ARKANSAS FIRMS OVER NONRESIDENT FIRMS IN PURCHASES UNDER COMPETITIVE BIDS. (1) In the purchase of commodities by competitive bidding, all public agencies shall accept the lowest qualified bid from a firm resident in Arkansas. This bid shall be accepted only if the bid does not exceed the lowest qualified bid from a nonresident firm by more than five percent (5%) and if one (1) or more firms resident in Arkansas made written claim for a preference at the time the bids were submitted. In calculating the preference to be allowed, the appropriate purchasing officials pursuant to 19-11-201 -- 19-11-259 shall take the amount of each bid of the Arkansas dealers who claimed the preference and deduct five percent (5%) from its total. If, after making such deduction, the bid of any Arkansas bidder claiming the preference is lower than the bid of the nonresident firm, then the award shall be made to the Arkansas firm which submitted the lowest bid regardless of whether that particular Arkansas firm claimed the preference.

(2) The preference provided for in this section shall be applicable only in comparing bids where one (1) or more bids are by a firm resident in Arkansas and the other bid or bids are by a nonresident firm. This preference shall have no application with respect to

competing bids if both bidders are firms resident in Arkansas as defined in this section. If any provision or condition of this subchapter conflicts with any provision of federal law or any rule or regulation made under federal law pertaining to federal grants-in-aid programs or other federal-supported contracts for the purchase of commodities to the extent that the conflict exists, but all provisions or conditions of this subchapter with which there is no conflict shall apply to contracts to purchase commodities to be paid in whole or in part from federal funds. **(NOTE - This bid preference only applies to the purchase of commodities by competitive bidding.)**

22-9-202. Construction of this section and 22-9-203 and 22-9-204.

Nothing in this section and 22-9-203 and 22-9-204 shall be construed to prevent any taxing unit from performing any of the work or making any of the improvements referred to in this section and 22-9-203 and 22-9-204 by the use of its own employees, or to require that, as a condition precedent to the right to use its own employees, bids must be received from contractors, nor shall this section and 22-9-203 and 22-9-204 be construed to amend or repeal any law which requires the publication of notice in those instances where the estimated amount of the cost of the proposed improvements shall be less than ten thousand dollars ($10,000), since it is the intention of this section and 22-9-203 and 22-9-204 to provide a uniform procedure to be followed by all taxing units whenever work is to be done under formal contract.

22-9-203. Public improvements generally - Award procedure.

(a) No contract providing for the making of major repairs or alterations, for the erection of buildings or other structures, or for making other permanent improvements shall be entered into by the state, or any agency thereof, any county, municipality, school district, or other local taxing unit with any contractor in those instances where all estimated costs of the work shall exceed the sum of ten thousand dollars ($10,000) for counties and municipalities and the sum of thirty thousand dollars ($30,000)*** for any school district. This sum of thirty thousand dollars ($30,000)*** is to be adjusted annually by the Director of State Building Services by issuing a new sum, adjusted according to the building costs increase for the previous twelve (12) months, by June 30 of each year, with his order being published in the Arkansas Register. These sums shall not be exceeded unless the taxing unit shall have first published notice of its intention to receive bids therefor one (1) time each week for not less than two (2) consecutive weeks in a newspaper of general circulation published in the county in which the proposed improvements are to be made or in a trade journal reaching the construction industry.

(b)(1) The date of publication of the last notice shall be not less than one (1) week before the day fixed therein for the receipt of bids.

(2) If there is no newspaper regularly published in the county in which the proposed work is to be done, the notices may be published in any newspaper having a general circulation in the county.

(3) Nothing in this section shall be construed as limiting to two (2) the number of weeks the notices may be published.

(c) All notices shall contain a brief description of the kind or type of work contemplated; the approximate location thereof; the place at which prospective bidders may obtain plans and specifications; the date, time, and place at which sealed bids will be received; the amount, which may be stated in a percentage, of the bid bond required; a statement, on contracts which do not require a performance bond, that the bid bond will be held until final acceptance and completion of the contract by payment in full; a statement of the taxing unit's reservation of the right to reject any or all bids and to waive any formalities; and such other pertinent facts or information which to it may appear necessary or desirable.

(d) On the date and time fixed in the notice, the board, commission, officer, or other authority in which or in whom authority is vested to award contracts, shall open and compare the bids and thereafter award the contract to the lowest responsible bidder, but only if it is the opinion of the authority that the best interests of the taxing unit would be served thereby.

(e) In the event that all bids submitted exceed the amount appropriated for the award of the contract and if bidding on alternates was not required by the plans and specifications, the state agency or its designated representatives shall have the authority to negotiate an award with the apparent responsible low bidder, but only if the low bid is within twenty percent (20%) of the amount appropriated.

(f)(1) Should the plans and specifications for the project require bids on alternates in addition to a base bid, the alternates shall be deductive, as distinguished from additive, and shall be set forth in the plans and specifications in numerical order.

(2) In the event that all bids submitted exceed the amount appropriated for the award of the contract, the state agency may determine the apparent responsible low bidder by deducting the alternates in numerical order.

(3) After making the deductions, if the cost of the project is less than twenty percent (20%) above the amount appropriated, then, and only in that event, the state agency may negotiate an award with the low bidder so determined.

(g) Whenever it is obvious from examination of the bid document that it was the intent of a bidder to submit a responsive bid, and the bid, if accepted, would create a serious financial loss to the bidder because of scrivener error such as transposition of figures, the board, commission, officer, or other authority in which or in whom authority is vested has the authority to relieve the bidder from responsibility under his bond and may reject his bid.

***(NOTE) Effective June 30, 1984, The Director of State Building Services increased the $30,000.00 amount for schools to $40,000.00.

22-9-204. Improvements exceeding $20,000 - Subcontractors - Penalty.

(a) In each instance where the total bid amount submitted by the licensed prime contractor exceeds twenty thousand dollars ($20,000), (NOTE - Act 728, 1991, amended this amount to $50,000), all prime contractors, as a condition to perform construction work for and in the State of Arkansas, shall use no other subcontractors except those licensed by the State Contractors Licensing Board and qualified in:

(1) Mechanical, indicative of heating, air conditioning, and ventilating;

(2) Plumbing;

(3) Electrical, indicative of wiring and illuminating fixtures; and

(4) Roofing and sheet metal work, indicative of roofing application.

(b) In the event the prime contractor is qualified and licensed by the Arkansas State Contractors Licensing Board, he may use his own forces to perform those tasks listed in this section as subcontractors in one (1) or more of the trades listed.

(c)(1) When the prime contractor makes a definite decision regarding the subcontractors he intends to use, he shall:

(A) Place the names of each subcontractor in a blank space to be provided on the form of proposal of his bid; and

(B) Place the name and amount of each of the above-listed subcontractors, including his own estimate of that portion of the work where he lists himself as a subcontractor, in a separate sealed envelope to accompany the proposal.

(2) The separate envelope shall be marked "Subcontractor's Bids" of the prime contractor submitting the proposal. This separate sealed envelope is not to be opened unless one (1) or more of the subcontractors named by the prime contractor in his successful bid thereafter refuses in writing to perform his contract or offered contract;

(3) In that event, the prime contractor may substitute another subcontractor, licensed by the Arkansas State Contractors Licensing Board, after having obtained prior approval from the architect or engineer, the owner, and the Office of Construction of State Building Services.

(d) The prime contractor shall submit written evidence that the substituted contractor is costing the same amount of money as shown in the separate sealed envelope or less and, if costing less, that the savings will be deducted from the total contract of the prime contractor and rebated to the owner.

(e) It shall be mandatory that the mechanical, plumbing, electrical, roofing, and sheet metal subcontractors named on the form of proposal by the prime contractor awarded a contract under the provisions of this subchapter be given contracts by the prime contractor in keeping with their proposals to perform the items for which they were named.

(f)(1) It shall be a violation of this section for any prime contractor to submit a bid listing unlicensed contractors or to use unlicensed contractors on a public works project.

(2) It shall be a violation of this section for any subcontractor who is not licensed by the Contractors Licensing Board to contract to perform work on a public works project.

(3) Any contractor or subcontractor who, after notice and hearing, is found to have violated this section shall pay to State Building Services a civil penalty of not less than two hundred fifty dollars ($250) and not more than five hundred dollars ($500), and may be suspended from bidding future public works contracts for a term of not less than six (6) months nor more than twelve (12) months.

(4) All hearings and appeals therefrom under this section shall be pursuant to the provisions of the Arkansas Administrative Procedure Act, 25-15-201 et seq. State Building Services shall have the power to file suit in the Circuit Court of Pulaski County to obtain a judgment for the amount of any penalty not paid within thirty (30) days of service on the contractor of the order assessing said penalty.

(5) Penalties collected pursuant to this section shall be deposited in State Building Services Maintenance Fund.

Act 728 of 1991

"AN ACT TO AMEND ARKANSAS CODE 22-9-204 TO INCREASE THE BASE BID AMOUNT FROM TWENTY THOUSAND DOLLARS ($20,000) TO FIFTY THOUSAND DOLLARS ($50,000) FOR LISTING SUBCONTRACTORS ON PUBLIC WORKS PROJECTS AND TO SIMPLIFY THE SEALED ENVELOPE REQUIREMENTS FOR THE SUBCONTRACTORS LIST; AND FOR OTHER PURPOSES."

SECTION 1. Arkansas Code 22-9-204 is hereby amended to read as follows:

"22-9-204. Improvements exceeding $50,000-Subcontractors-Penalty.

(a) In each instance where the total bid amount submitted by the licensed prime contractors exceeds fifty thousand dollars ($50,000), all prime contractors, as a condition to perform construction work for and in the State of Arkansas, shall use no other subcontractors except those licensed by the State Contractors Licensing Board and qualified in:

(1) Mechanical, indicative of healing, air conditioning, and ventilating;

(2) Plumbing;

(3) Electrical, indicative of wiring and illuminating fixtures; and

(4) Roofing and sheet metal work, indicative of roofing application.

(b) In the event the prime contractor is qualified and licensed by the Arkansas State Contractors Licensing Board, he may use his own forces to perform those tasks listed in this section as subcontractors in one (1) or more of the trades listed.

(c)(1) When the prime contractor makes a definite decision regarding the subcontractors he intends to use, he shall;

(A) Place the names of each subcontractor in a blank space to be provided on the form of proposal of his bid; and

(B) Place the name and amount of each of the above-listed subcontractors, including his own estimate of that portion of the work where he listed himself as a subcontractor, in a separate sealed envelope to accompany the proposal.

(2) This separate sealed envelope is not to be opened unless one (1) or more of the subcontractors named by the prime contractor in his successful bid thereafter refuses to perform his contract or offered contract;

(3) In that event, the prime contractor may substitute another subcontractor, licensed by the Arkansas State Contractors Licensing Board, after having obtained prior approval from the architect or engineer, the owner, and the Office of Construction of State Building Services.

(d) The prime contractor shall submit written evidence that the substituted contractor is costing the same amount of money as shown in the separate sealed envelope or less and, if costing less, that the savings will be deducted from the total contract of the prime contractors and rebated to the owner.

(e) It shall be mandatory that the mechanical, plumbing, electrical, roofing, and sheet metal subcontractors named on the form of proposal by the prime contractor awarded a contract under the provisions of this subchapter be given contracts by the prime contractor in keeping with their proposals to perform the items for which they were named.

(f)(1) It shall be a violation of this section for any prime contractor to submit a bid listing unlicensed contractors or to use unlicensed contractors on a public works project.

(2) It shall be a violation of this section for any subcontractor who is not licensed by the Contractors Licensing Board to contract to perform work on a public works project.

(3) Any contractor or subcontractor who, after notice and hearing, is found to have violated this section shall pay to State Building Services a civil penalty of not less than two hundred fifty dollars ($250) and not more than five hundred dollars ($500), and may be suspended from bidding future public works contracts for a term of not less than six (6) months nor more than twelve (12) months.

(4) All hearings and appeals therefrom under this section shall be pursuant to the provisions of the Arkansas Administrative Procedure Act, 25-15-201 et seq. State Building Services shall have the power to file suit in the Circuit Court of Pulaski County to obtain a judgment for the amount of any penalty not paid within thirty (30) days of service on the contractor of the order assessing said penalty.

(5) Penalties collected pursuant to this section shall be deposited in State Building Services Maintenance Fund.

SECTION 2. All provisions of this act of general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 3. If any provisions of this act or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provisions or application, and to this end the provisions of this act are declared to be severable.

SECTION 4. All laws and parts of laws in conflict with this act are hereby repealed.

22-9-205. Public improvements generally - Interest on delinquent payments.

Whenever any agency of this state or of any county, municipality, or school district, or other local taxing unit or improvement district enters into a contract covered by the provisions of 22-9-202 -- 22-9-204 for the making of repairs or alterations or the erection of buildings or for the making of any other improvements, or for the construction or improvement of highways, roads, streets, sidewalks, curbs, gutters, drainage or sewer projects, or for any other construction project, and the contract provides that payment therefor shall be made upon completion and acceptance of the project, and the contractor, upon completion and approval of the project, presents a claim for payment of the amount due thereon in accordance with the terms of the contract, and the claim is not paid by the public authority within ninety (90) days from the date of presentation of the claim, then the public authority shall pay to the contractor interest at the rate of ten percent (10%) per annum on the unpaid amount due for all periods of time that the payment under the contract is not made subsequent to ninety (90) days after presentation of the claim.

22-9-206. Public improvements generally - Preference for certain bidders.

(a) In awarding contracts covered by the provisions of 22-9-202 -- 22-9-204, the bid of a contractor who has satisfactorily performed prior contracts, who maintains at least one (1) staffed office in this state, and who has paid taxes for not less than two (2) consecutive years immediately prior to submitting a bid under the Arkansas Employment Security Act, 11-10-101 et seq., and either the Arkansas Gross Receipts Act, 26-52-101 et seq., or the Arkansas Compensating Tax Act, 26-53-101 et seq., on any property used or intended to be used for or in construction or in connection with the contractor's business and who, within the two-year period, has paid any taxes to one (1) or more

counties, school districts, or municipalities of the State of Arkansas on either real or personal property used or intended to be used in the performance of or in connection with construction contracts, shall be deemed a better bid than the bid of a competing contractor who has not paid the taxes whenever the bid of the competing contractor is less than three percent (3%) lower. The contractor making a bid as provided by this section which is deemed the better bid shall be awarded the contract.

(b) No contract awarded under the provisions of this section shall be sublet to a contractor required to be listed as a subcontractor by 22-9-202 -- 22-9-204 who has not paid taxes as required by this section.

(c) As used in this section, "satisfactorily performed prior contracts" means performance of one (1) or more contracts within the State of Arkansas within two (2) years of the date bids are to be submitted and on which the contractor substantially completed performance, so that no surety, bonding company, or owner, either governmental or private, was required to take over performance and complete the contract.

(d) If any provision or condition of this section conflicts with any provision of federal law or any rule or regulation made under federal law pertaining to federal aid contracts, the provision or condition shall not apply to federal aid contracts to the extent that the conflict exists, but all provisions or conditions of this section with which there is no conflict shall apply to federal aid contracts.

Act 779 of 1991

"AN ACT TO REPEAL ARKANSAS CODE 22-9-206(b) TO ELIMINATE THE REQUIREMENT THAT SUBCONTRACTORS MEET THE TAX PAYMENT REQUIREMENTS OF THE SECTION; AND FOR OTHER PURPOSES."

SECTION 1. Arkansas Code 22-9-206(b) is hereby repealed.

SECTION 2. All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 3. If any provision of this act or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this and the provisions of this act are declared to be severable.

SECTION 4. All laws and parts of laws in conflict with this act are hereby repealed.

Act 783 of 1991

"AN ACT TO AMEND VARIOUS SECTIONS OF SUBCHAPTER 4 OF TITLE 17, CHAPTER 22 OF THE ARKANSAS CODE OF 1987 ANNOTATED REGARDING NONRESIDENT CONTRACTORS TO REMOVE THE DISTINCTION BETWEEN NONRESIDENT AND RESIDENT CONTRACTORS IN POSTING SURETY BONDS SO ALL CONTRACTORS WILL POST SURETY BONDS, TO REQUIRE CONTRACTORS TO GIVE NOTICES OF COMMENCEMENT AND COMPLETION OF WORK, TO DECREASE THE SURETY BOND REQUIREMENTS GUARANTEEING TAX PAYMENTS FROM TEN PERCENT(10%) TO FIVE PERCENT (5%) OF THE AMOUNT OF THE CONTRACT, TO PROVIDE FOR RELEASE AND ACTION ON THE BOND, AND TO PROVIDE AUTHORITY TO EXAMINE THE BOOKS OF THE CONTRACTOR; TO REPEAL ARKANSAS CODE 26--53-204, 26-53-205, AND 26--53-206 TO ELIMINATED DUPLICATIVE BONDING REQUIREMENTS FOR CONTRACTORS, AND FOR OTHER PURPOSES."

SECTION 1. Arkansas Code 17-22-401 is hereby amended to read as follows:

"17-22-401. Definitions.

(a)(1) 'Contractor' shall include all original, prime, and general contractors and all subcontractors. It is defined to be any person, firm, joint venture, partnership, copartnership, association, corporation, or other organization engaged in the business of the construction, alteration, dismantling, demolition, or repairing of roads, bridges, viaducts, sewers, water and gas mains, streets, disposal plants, water filters, tanks, towers, airports, buildings, dams, levees, canals, railways and rail facilities, oil and gas wells, water wells, pipelines, refineries, industrial or processing plants, chemical plants, power plants, electric, telephone, or any other type of energy or message transmission lines or equipment, or any other kind of improvements or structure.

(2) The term 'contractor' shall include any contractor who is required to obtain a contractor's license under the state licensing law of this state, 17-22-101 et seq.

(b) However, when a person or entity acts as a contractor in the construction, erection, alteration, or repair of his own or its own property or of a single-family residence or if the cost of the work to be done, including, but not limited to, labor and materials, is less than twenty thousand dollars ($20,000), the person or entity shall not be deemed a contractor under this chapter."

SECTION 2. Subsection (b) of Arkansas Code & 17-22-402 is hereby amended to read as follows:

"(b) All taxes, premiums, contributions, penalties, interest, and fines collected pursuant to this subchapter, except enforcement penalties, shall be distributed pro-rate, based upon the amount of taxes, premiums and contributions due to the Department of Finance and Administration, Employment Security Division, Workers' Compensation Commission, or any city, county, or school district, or any other state

agency or other political subdivision of the state, first to the extent of any taxes, premiums, and contributions due with any remainder applied to interest, penalties, and fines, in that order. All enforcement penalties assessed to a contractor pursuant to the provisions of this subchapter shall be paid directly to the Contractors Licensing Board to defer the cost of enforcement."

Section 3. Arkansas Code § 17-22-403 is hereby amended to read as follows:

"17-22-403. Preliminary notice - Emergency - Liability of customer.

(a) Contractors desiring to engage in, prosecute, follow, or carry on the business of contracting in this state shall give written notice by certified mail, return receipt requested, to the Contractors Licensing Board before actually commencing work or undertaking to perform any duties under the contract. The Contractors Licensing Board shall then notify the Director of the Department of Finance and Administration, the Director of the Employment Security Division, the Workers' Compensation Commission, and the county assessor of each county in which the contract work or service is to be performed that a contractor is commencing work or duties under a contract.

(b)(1) The notice, and copy of the bond to the filed with the Director of the Department of Finance and Administration by the contractor under the provisions of 17-22-404, shall also be filed as a matter of record with the Contractors Licensing Board.

(2) The notice shall state:

(A) The amount of the contract price;

(B) The location of the work;

(C) The date the work is to commence;

(D) A description of the general nature of the work; and

(E) A list of subcontractors of the contractor who will be performing work or service.

(c) In the event that an emergency exists whereby a contractor must commence work immediately, the contractor shall notify the Contractors Licensing Board by phone within one (1) business day of the commencing of work on the site. The phone notification shall include the nature of the emergency situation demanding the immediate commencement of work, the day and time work commenced, and the estimated day and time of completion of the contract work. Within three (3) additional business days the contractor shall notify the Contractors Licensing Board as required in subsection (a) of this section and shall submit the appropriate bond as required in 17-22-404.

(d) In the event the contractor fails to honor its financial obligations to the State of Arkansas, any city, county, school district, state agency, or other political subdivision of the state, the customer for whom the work was being performed shall be responsible for all financial obligations of the contractor to the State of Arkansas, or any city, county, school district, state agency, or other political subdivision of the state, on that customer's project provided that the customer receives written notice of the contractor's failure to comply with this subchapter prior to final payment to the contractor."

SECTION 4. Arkansas Code § 17-22-404 is hereby amended to read as follows:

"17-22-404. Bond - Filing, terms.

(a) Before commencing work or undertaking to perform any services or duties under a contract, a contractor shall file with the Director of the Department of Finance and Administration as the depository agency, a surety bond of a surety authorized to do business in this state or a cash bond.

(b) The bond shall be:

(1) In a penal sum of not less than five percent (5%) of the amount of the contract;

(2) Payable to the State of Arkansas;

(3) Conditioned on the contractor and his subcontractors complying with the tax laws of the state of Arkansas, and when applicable, any city, county, school district, state agency, or other political subdivision of the state, the Arkansas Employment Security Act, 11-10-101 et seq., the Workers' Compensation Law, 11-9-101 et seq. and the provisions of this subchapter."

SECTION 5. Arkansas Code § 17-22-405 is hereby amended to read as follows:

"17-22-405. Bond - Exceptions - Certification notice.

(a) A contractor shall post a certification notice at each project site showing that the contractor has complied with this section and 17-22-404. The certification notice shall be issued by the Director of the Department of Finance and Administration.

(b) A contractor who is a subcontractor shall be exempt from this section if the original prime or general contractor has filed a bond pursuant to this section and 17-22-404."

SECTION 6. Arkansas Code § 17-22-406 is hereby amended to read as follows:

"17-22-406. Notice of contract completion.

(a) A contractor shall give written notice by certified mail, return receipt requested, to the Director of the Department of Finance and Administration immediately upon completion of the work and services required by the contract. The director shall then notify the Director of the Employment Security Division, the Workers' Compensation Commission, the Contractors Licensing Board and the county collector of each county in which the contract work or service has been performed.

(b) The notice shall also list all subcontractors of the contractor who performed work or services. The date of mailing the notice shall, for the purposes of this subchapter, be considered the date of the completion of the contract."

SECTION 7. Arkansas Code § 17-22-407 is hereby amended to read as follows:

"17-22-407. Release of bond - Action on bond.

(a) The Director of the Department of Finance and Administration shall not release the bond with respect to any liability that may be due the Revenue Division of the Department of Finance and Administration of the State of Arkansas for at least three (3) months after the contractor mails the completion notice of the contract, nor shall the director release the bond with respect to any liability that may be due the Employment Security Division, the Workers' Compensation Commission, or any city, county, or school district, or other state agency, or other political subdivisions of the state, with respect to any such contract for at least three (3) months after the contractor mails a a completion notice of the contract and the director receives written notice from the Employment Security Division, the Workers' Compensation Commission, the Contractors Licensing Board, and the county collector of the affected county that the contractor owes no liability with respect to taxes, premiums, contributions, penalties, interest, and fines due their respective cities, counties, or school districts, or other state agencies, or other political subdivisions of the state. The Employment Security Division, the Workers' Compensation Commission, the Contractors Licensing Board, and the county collector shall give written notice to the Director of any liability owed within three (3) months from the date of the notice received from the Director.

(b) No action shall be commenced on the bond required by this subchapter after the expiration of one (1) year from the date of the mailing of the notice of the completion of the contract.

(c)(1) Except as otherwise specifically provided in this subchapter, the director shall serve solely as the depository of the bond filed under the provisions of this subchapter, and shall have no enforcement responsibilities with respect to the payment of liabilities due the Employment Security Division, the Workers' Compensation Commission, any city, county, or school district, or other state agency, or other political subdivision of the state under the provisions of this subchapter.

(2) The director shall have the authority to examine the books, records, papers, vouchers, accounts, and documents of any contractor for the purpose of ascertaining if the contractor has complied with the gross receipts tax Arkansas Code §§ 26-52-101 et seq., and the compensating or use taxes, Arkansas Code §§ 26-53-101 et seq., prior to release of the bond under this subchapter.

(3) The director shall not release the bond of any contractor until specific written notice is received from the Employment Security Division, the Workers' Compensation Commission, any city, county, or school district, or other state agency, or other political subdivision of the state, authorizing the release."

SECTION 8. Arkansas Code § 17-22-408 is hereby amended to read as follows:

"17-22-408. Failure to comply - Penalties - Enforcement.

(a) The fact that a contractor is performing or has performed work in Arkansas and prior notice as required by this subchapter has not been given shall constitute primal facie evidence of failure to comply.

(b) Upon notice to the contractor and hearing thereon if requested by the contractor or if deemed appropriate by the board or any committee thereof, should it be determined that a violation exists, the board or committee may assess a penalty for non-compliance in a sum not to exceed five percent (5%) of the value of the contract performed, and upon conviction for a second or subsequent violation, the contractor may be punished by a fine equal to ten percent (10%) of the value of the contract performed. Further, any contractor found guilty of a second or subsequent violation of this subchapter may lose its contractors license for a period of one (1) year. The board or committee may also issue an order to cease and desist the work pending compliance.

(c) Failure of a contractor to comply with the provisions of this subchapter shall be grounds for revocation of any license issued to the contractor by the Contractors Licensing Board.

(d) Enforcement of the notice and bond posting requirements contained herein shall be the responsibility of the Contractors Licensing Board.

(e) The board shall have the power to make such rules and regulations for enforcement as it may consider appropriate and not in conflict with Arkansas law."

SECTION 9. Subsection (c) of Arkansas Code § 17-22-409 is hereby amended to read as follows:

"(c) The Contractors Licensing Board shall have the power to file suit in the Circuit Court of Pulaski County to enforce any cease and desist order not complied with within fifteen (15) days, excluding Saturdays, Sundays, and legal holidays, of service on the contractor of the order. If the Circuit Court finds the order to have been properly issued, it may enforce it by any means by which injunctions are ordinarily enforced. However, nothing shall be construed herein to diminish the contractor's right to appeal."

SECTION 10. All provisions of this act of general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 11. If any provisions of this act or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provisions or application, and to this and the provisions of this act are declared to be severable.

SECTION 12. (a) Arkansas Code of 1987 Annotated §§ 26-53-204, 26-53-205, and 26-53-206 are hereby repealed.

(b) All other laws and parts of laws in conflict with this act are hereby repealed.

19-11-401. Purpose. REPEALED - ACT 645 OF 1993

It is the purpose of this subchapter to procure the greatest economy consonant with responsibility of contractors engaged in public supply or construction pursuant to the letting of contracts by competitive bids and to minimize favoritism in the letting of such contracts.

19-11-402. Applicability - Exceptions. REPEALED - ACT 645 OF 1993

(a) The provisions of this subchapter shall apply to the letting of all construction contracts by the state, its agencies and political subdivisions, and to all constructs of political subdivisions except municipalities and counties of the state for commodities and services, where competitive bidding is required.

(b) The provisions of this subchapter shall not be applicable to:

(1) Highway maintenance and construction contracts;

(2) Any contracts let by the Office of State Purchasing;

(3) Any contracts let by municipalities and counties of this state;

(4) State agency contracts for commodities and services subject to other appropriate law;

(5) Cities and towns having boards of public affairs operating public utilities, auditoriums, airports, or other city-owned properties; or

(6) Commissions appointed by cities operating public utilities, auditoriums, airports, or other city-owned properties.

(NOTE) Competitive bidding could be required in two different situations. Those are as follows:

(1) As a part of your local school board's written bid solicitation policy.

(2) As required by Ark. Code Ann. 22-9-203, which triggers the formal bid process when project costs exceeds $40,000.

Bonding Requirements

19-11-403. Bid requirements. REPEALED - ACT 645 OF 1993

(a) Every bid submitted on public construction contracts for the state, or any agency or department of the state or any political

subdivision of the state, and every bid submitted for the furnishing of commodities or services to political subdivisions of the state shall be absolutely void unless accompanied by a certified check or by a written bid or proposal bond of a responsible surety. Such bond shall indemnify the public against failure of the contractor to execute and deliver the contract and necessary bonds for faithful performance of the contract.

(b) The bond shall be conditioned upon the prompt payment of labor and material furnished in the prosecution of the contract and shall provide that the contractor or surety must pay the damage, loss, cost, and expense subject to the amount of the bid bond directly arising out of the contractor's default in failing to execute and deliver the contract and bonds.

(c) Liability under this bond shall include, but shall not be limited to, the sum by which the amount of the contract, covering the proposal, executed with another third party may exceed the amount bid by the contractor.

(d) Whenever it is obvious from examination of the bid document that it was the intent of a bidder to submit a responsive bid, and the bid, if accepted, would create a serious financial loss to the bidder because of scrivener error such as transposition of figures, the Director of State Building Services has the authority to relieve the bidder from responsibility under his bond and may reject his bid.

19-11-404. Acceptance of bid. REPEALED → ACT 645 OF 1993

All bidders being made responsible in the manner stated in 19-11-403, it shall be the duty of persons empowered to accept bids to accept no other bid than the lowest, except upon default of the lowest bidder.

19-11-405. Performance bond. REPEALED → ACT 645 OF 1993

(a) The successful bidder on each contract to which this subchapter is applicable shall provide a performance bond of a responsible surety for the full amount of the bid. This bond is to continue in force in its full amount until final acceptance and payment in full for completion of the contract, or until the state or state agency or political subdivision letting the contract is made whole for any breach or failure of the contractor.

(b) On contracts which do not require a performance bond, the bid bond will be held until final acceptance and completion of the contract by payment in full.

18-44-503. Public buildings and improvements. (Performance Bond)

(a) No contract in any sum exceeding twenty thousand dollars ($20,000) providing for the repair, alteration, or erection of any public building, public structure, or public improvement shall be

entered into by the State of Arkansas or any subdivision thereof, by any county, municipality, school district, or other local taxing unit, or by any agency of any of the foregoing, unless the contractor shall furnish to the party letting the contract a bond in a sum equal to the amount of the contract.

(b) All persons, firms, associations, and corporations who have valid claims against the bond may bring an action on the bond against the corporate surety, provided that no action shall be brought on the bond after twelve (12) months from the date on which the Arkansas State Building Services approves final payment on the state contract, nor shall any action be brought outside the State of Arkansas.

22-9-401. Coverage.

(a) All surety bonds required by the State of Arkansas or any subdivisions thereof by any county, municipality, school district, or other local taxing unit, or by any agency of any of the foregoing for the repair, alteration, construction, or improvement of any public works including, but not limited to, buildings, levees, sewers, drains, roads, streets, highways, and bridges shall be liable on all claims for labor and materials entering into the construction, of the public improvements.

(b) Claims for labor and materials shall include, but not be limited to, fuel oil, gasoline, camp equipment, food for workers, feed for animals, premiums for bonds and liability and workers' compensation insurance, rentals on machinery, equipment and draft animals, and taxes or payments due the State of Arkansas or any political subdivision thereof which shall have arisen on account of, or in connection with, wages earned by workers on the project covered by the bond.

22-9-402. Authorized bonding companies - Agents.

(a) All bonds enumerated in 22-9-401 shall be made by surety companies which have qualified and are authorized to do business in the State of Arkansas.

(b)(1) The bonds shall be executed by a resident local agent who shall be entitled to the full commission paid local agents and who shall be licensed by the Insurance Commissioner to represent the surety company executing the bond and filing with the bond the agent's power of attorney as his authority.

(2) The mere countersigning of a bond will not be sufficient.

(c)(1) No employers' liability, public liability, or workers' collective insurance policy written in connection with any public works contract as specified in this subchapter shall be written by any casualty company not authorized to do business in the State of Arkansas.

(2) These policies shall likewise be issued by a resident local agent licensed by the Insurance Commissioner of the State of Arkansas.

6-13-105. District sale of state-donated lands.

(a) Any school district in the State of Arkansas having lands donated and given to it by the State of Arkansas through action of the General Assembly, to be used for sites of schoolhouses, shall:

(1) Have the power of sale of the lands and

(2) Be enabled to give good and lawful title to the lands.

(b) The proceeds of a sale shall be used entirely and exclusively for school purposes.

(c) The benefits accruing from the sale shall remain within and be applied to the same district either alone or combined with other districts of a contiguous nature where the original district may have been consolidated with other adjoining districts.

Act 363 of 1991

"AN ACT TO PROVIDE THAT WHEN ANY PUBLIC SCHOOL IS CLOSED AND ANY REAL PROPERTY USED BY THE SCHOOL WAS ACQUIRED BY THE DISTRICT BY THE EXERCISE OF EMINENT DOMAIN, THE PERSON WHO OWNED THE PROPERTY AT THE TIME IT WAS TAKEN BY THE DISTRICT OR HIS OR HER SUCCESSOR IN INTEREST, SHALL BE ENTITLED TO REPURCHASE THE PROPERTY; AND FOR OTHER PURPOSES."

SECTION 1. When any public school is closed and any of the real property acquired for or used by the school was acquired by the exercise of the power of eminent domain, the person who owned the property at the time it was taken by eminent domain, or his or her successor in interest, shall be entitled to repurchase that portion of the property on which no capital improvements are located from the district for the amount or proportional amount the district paid for the property if the district acquired the property by the power of eminent domain within the last fifteen years. If the property was acquired by the district more than fifteen years prior to the closing of the school, the previous owner shall be entitled to repurchase the property from the district at fair market value.

SECTION 2. Any person who has the option to repurchase property from a school district under Section 1 hereof shall notify the district of its desire to repurchase the property and exercise the option within one (1) year after the school is closed, and not thereafter.

SECTION 3. All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 4. If any provision of this act or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are declared to be severable.

SECTION 5. All laws and parts of laws in conflict with this act are hereby repealed.

SECTION 6. EMERGENCY. It is hereby found and determined by the General Assembly that if a school district takes property for school use by exercise of the power of eminent domain and subsequently the school for which the property was acquired is closed, fairness and equity demands that the former owner of the property from whom the district acquired title by eminent domain should have the option to repurchase the property from the district for the amount the district paid for the property when it acquired it by exercise of the power of eminent domain; that this act is designed to grant such option and should be given effect immediately. Therefore, an emergency is hereby declared to exist and this act being necessary for the preservation of the public peace, health and safety shall be in full force and effect from and after its passage and approval.

Design Requirements - Engineer

22-9-101. Supervision of registered professional required.

(a) Neither the state nor any township, county, city, town, village, or other political subdivision of the state shall engage in the construction of any public works involving engineering for which the plans, specifications, and estimates have not been made by, and the construction executed under the supervision of, a registered professional engineer, licensed to practice under the laws of Arkansas.

(b) Nothing in this section shall be held to apply to any public works wherein the contemplated expenditures for the complete project do not exceed twenty-five thousand dollars ($25,000).

(NOTE - A roofing project that exceeds $25,000 and alters the existing structure of a building would come under this law.)

(c) This section shall not apply to any school district, county, or township project which is planned and executed according to plans and specifications furnished by authorized state agencies.

(d) The violation of this section on the part of a public officer shall constitute a misdemeanor punishable by a fine of not less than fifty dollars ($50.00).

17-27-101. Definition.

As used in this chapter, unless the context otherwise requires:

(1) "Practice of engineering" means any service or creative work, the adequate performance of which requires engineering education, training, and experience in the application of special knowledge in the mathematical, physical, and engineering sciences to services or creative work such as consultation, investigation, evaluation, planning, and design of engineering works and systems relating to the use of air, land, water, municipal and regional planning, engineering

teaching of advanced engineering subjects or courses related thereto, engineering surveys, and the inspection of construction for the purpose of assuring compliance with drawings and specifications; any of which embraces service or work either public or private, in connection with any utilities, structures, buildings, machines, equipment, processes, work systems, or projects including such architectural work as is incidental to the practice of engineering.

(2) A person shall be construed to practice or offer to practice engineering, within the meaning and intent of this chapter, who:

(A) Practices any branch of the profession of engineering;

(B) By verbal claim, sign advertisement, letterhead, card, or in any other way represents himself to be an engineer;

(C) Through the use of some other title implies that he is an engineer or that he is registered under this chapter;

(D) Holds himself out as able to perform or does perform any engineering service or work or any other service designated by the practitioner which is recognized as engineering.

(3) The term "practice of engineering" shall not include persons who merely operate or maintain machinery or equipment.

(4) The practice of engineering shall not include the noncreative, nonprofessional work performed by the act of measuring land or drawing or reading plans or other work normally done by mechanics, technicians, land surveyors, or draftsmen.

(5) The provisions of this chapter shall not be construed to amend in any manner the Arkansas Architectural Act, 17-14-101 et seq.

Design Requirements - Architect

17-14-102. Definitions.

As used in this chapter, unless the context otherwise requires:

(1) "Architect" means a person who is technically and legally qualified to practice architecture;

(2) "Examining body" means the professional board, committee, or jury legally constituted to carry out the provisions of the registration act, to examine candidates for architectural practice, and to hear charges of unprofessional conduct in the practice of architecture. The examining body shall be known as the Arkansas State Board of Architects.

17-14-302. Exemptions.

(a) The following shall be exempt from the provisions of this chapter:

(1) Professional engineers duly licensed or registered, but only insofar as concerns work incidental to engineering practice and as the scope of their entrance-to-practice examination under the conditions of

the engineer's state registration law proves competency, providing such persons do not use the designation "architect" or any term derived therefrom;

(2) Employees of those lawfully practicing architecture, who are acting under the instruction, control, or supervision of their employer;

(3) Officers and employees of the Government of the United States while engaged within this state in the practice of architecture for said government;

(4) Residents of this state who do not use the title "architect" or any term derived therefrom, who act as designers for:

(A) Buildings that are to be constructed for personal use, such as residences, if such buildings are not intended or adaptable for public employment, assembly, or any other use under which they will be open to the public;

(B) Single family detached, duplex, triplex, and quadruplex dwelling;

(C) Buildings that are constructed at a cost, not including site, of not to exceed seventy-five thousand dollars ($75,000);

(5) Owners and employees of planing mills, woodworking establishments, sash and door manufacturers, and jobbers in the designing, planning, detailing, and preparation of data on millwork, woodwork, and cabinetwork, provided they do not use the designation "architect" or any term derived therefrom.

(b)(1) The terms of this chapter shall not apply to:

(A) Any public school district exempted from the provisions of this chapter; or

(B) Every public school district embracing a city with a population in excess of thirty thousand (30,000), which maintains a full-time superintendent of buildings with engineering and architectural experience.

(2) This exception shall only apply:

(A) To the repair and maintenance of buildings already constructed and alterations thereof; and

(B) To new structures that will not exceed in cost the sum of seventy-five thousand dollars ($75,000).* AMENDED TO $100,000

(c) The provisions of this chapter shall not apply to any public school district where the cost of the building, alteration. or structure does not exceed the sum of fifty thousand dollars ($50,000).

Procurement of Engineers and Architects

19-11-801. Policy.

It is the policy of the State of Arkansas and political subdivisions that the state and political subdivisions shall negotiate contracts for legal, architectural, engineering, and land surveying services on the basis of demonstrated competence and qualifications for the type of

services required and at fair and reasonable prices and to prohibit the use of competitive bidding for the procurement of professional services.

19-11-802. Annual statements of qualifications and performance data - Restrictions on competitive bidding.

(a) In the procurement of legal, architectural, engineering, or land surveying services, the political subdivision which utilizes such services shall encourage firms engaged in the lawful practice of these professions to submit annual statements of qualifications and performance data to the political subdivision.

(b) The political subdivision shall evaluate current statements of qualifications and performance data of firms on file whenever a project requiring professional services from a lawyer, architect, engineer, or land surveyor is proposed.

(c) The political subdivision shall not use competitive bidding for the procurement of professional services of a lawyer, architect, engineer, or land surveyor.

19-11-803. Evaluation of qualifications.

In evaluating the qualifications of each firm, the political subdivision shall consider:

(1) The specialized experience and technical competence of the firm with respect to the type of professional services required;

(2) The capacity and capability of the firm to perform the work in question, including specialized services, within the time limitations fixed for the completion of the project;

(3) The past record of performance of the firm with respect to such factors as control of costs, quality of work, and ability to meet schedules and deadlines; and

(4) The firm's proximity to and familiarity with the area in which the project is located.

19-11-804. Selection.

The political subdivision shall select three (3) qualified firms. The political subdivision shall then select the firm considered the best qualified and capable of performing the desired work and negotiate a contract for the project with the firm selected.

19-11-805. Negotiation of contracts.

(a) For the basis of negotiations, the political subdivisions and the selected firm shall jointly prepare a detailed, written description of the scope of the proposed services.

(b) If the political subdivision is unable to negotiate a satisfactory contract with the firm selected, negotiations with that

firm shall be terminated. The political subdivision shall then undertake negotiations with another of the qualified firms selected. If there is a failing of accord with the second firm, negotiations with such firm shall be terminated. The political subdivision shall undertake negotiations with the third qualified firm.

(c) If the political subdivision is unable to negotiate a contract with any of the selected firms, the agency shall reevaluate the necessary legal, architectural, engineering, or land surveying services, including the scope and reasonable fee requirements, again compile a list of qualified firms and proceed in accordance with the provisions of this subchapter.

Contractor Requirements

17-22-101. Definition.

(a) As used in this chapter, unless the context otherwise requires, "contractor" means any person, firm, partnership, copartnership, association, corporation, or other organization, or any combination thereof, who, for a fixed price, commission, fee, or wage, attempts to or submits a bid to construct, or contracts or undertakes to construct, or assumes charge, in a supervisory capacity or otherwise, or manages the construction, erection, alteration, or repair, or has or have constructed, erected, altered, or repaired, under his, their, or its direction, any building, apartment, condominium, highway, sewer, utility, grading, or any other improvement or structure on public or private property for lease, rent, resale, public access, or similar purpose, except single-family residences, when the cost of the work to be done, or done, in the State of Arkansas by the contractor, including, but not limited to, labor and materials, is twenty thousand dollars ($20,000) or more. However, when a person or entity acts as a contractor in the construction, erection, alteration, or repair of his own or its own property, such action shall not result in the person or entity being deemed a contractor under this chapter.

(b) However, the twenty thousand dollars ($20,000) exception shall not apply to any project of construction in which any of the construction work necessary to complete the project, except any in-progress change orders, is divided into separate contracts of amounts less than twenty thousand dollars ($20,000), a purpose being to circumvent the provisions of this chapter.

(c) It is the intention of this definition to include all improvements or structures, excepting only single-family residences.

17-22-301. Significance - Proof.

(a) The issuance of a certificate of license by the board shall be evidence that the person, firm, or corporation named therein is entitled to all of the rights and privileges of a licensed contractor while the license remains unrevoked or unexpired.

(b)(1) Upon making application to the building inspector or other authority of any incorporated city or town in Arkansas charged with the duty of issuing building or other permits for the construction of any building, apartment, condominium, utility, highway, sewer, grading, or any other improvement or structure, when the cost of the work to be done by the contractor, but not limited to labor and materials, is twenty thousand dollars ($20,000) or more, any person, firm, or corporation, before being entitled to the issuance of such permits shall furnish satisfactory proof to the inspector or authority that he is duly licensed under the terms of this chapter.

(2) It shall be unlawful for the building inspector or other authority to issue or allow the issuance of a building permit unless and until the applicant has furnished evidence that he is either exempt from the provisions of this chapter or is duly licensed under this chapter to carry out or superintend the work for which the permit has been applied.

17-22-401. Definitions.

(a)(1) "Contractor" shall include all original, prime, and general contractors and all subcontractors. It is defined to be any person, firm, joint venture, partnership, copartnership, association, corporation, or other organization engaged in the business of the construction, alteration, dismantling, demolition, or repairing of roads, bridges, viaducts, sewers, water and gas mains, streets, disposal plants, water filters, tanks, towers, airports, buildings, dams, levees, canals, railways and rail facilities, oil and gas wells, water wells, pipelines, refineries, industrial or processing plants, chemical plants, power plants, electric, telephone, or any other type of energy or message transmission lines or equipment, or any other kind of improvement or structure.

(2) The term "contractor" shall include any contractor who is required to obtain a contractor's license under the state licensing law of this state, 17-22-101 et seq.

(b) "Nonresident contractor" means any contractor who does not maintain his principal place of business in Arkansas.

(NOTE) Ark. Code Ann. 17-22-404 through 17-22-409 further explains the processes that govern "Resident and Non-resident" contractors.

17-31-301. License required.

(a)(1) No person shall engage in work as a master plumber, journeyman plumber, apprentice plumber, or restricted license holder called for under this chapter or adopted regulations unless first licensed or registered to do so by the department.

(2) No person other than a licensed master plumber shall use or display the title "master plumber" or append his name to or in connection with such title or any other title or words which represent or may tend to represent him as a licensed master plumber.

(b) In any city or town or in any sewerage district, water district, water association, sewer association, or utility gas system, no person, firm, or corporation shall install plumbing unless a licensed master or restricted licensed plumber is in charge at all times who shall be responsible for proper installation. No license shall be transferable. It shall be unlawful for any licensed plumber to allow the use of his license, directly or indirectly, for the purpose of obtaining local permits for others. He shall not allow the use of his license by others to install plumbing work.

(c) Each member or employee of a copartnership or each officer or employee of a corporation engaging in the business of superintending plumbing installations shall be required to apply for and obtain a master plumber license or other license provided for in this chapter before engaging in the work of superintending plumbing installations.

(d) No person shall act as a plumbing inspector in this state without first obtaining a certificate of competency as a plumbing inspector which shall be issued by the department. The department may issue special certification for special phases of plumbing and may issue an inspector-in-training certificate to duly appointed plumbing inspectors.

Act 277 of 1991

"AN ACT TO ESTABLISH THE ARKANSAS HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION LICENSING BOARD; TO PROVIDE ADMINISTRATION OF THE LICENSING LAW THROUGH THE ARKANSAS DEPARTMENT OF HEALTH; AND FOR OTHER PURPOSES."

SECTION 1. Definitions. As used in this act:

(1) "Board" means the Arkansas Heating, Ventilation, Air Conditioning and Refrigeration Licensing Board;

(2) "BTUH" means British Thermal Unit per hour of heat;

(3) "Department" means the Arkansas Department of Health;

(4) "Director" means the Director of the Arkansas Department of Health;

(5) "Heating and air conditioning" means the process of treating air to control temperature, humidity, cleanliness, ventilation, or circulation to meet human comfort requirements;

(6) "Heating, Ventilation, Air Conditioning and Refrigeration" or "HVACR" means the design, installation, construction, maintenance, service, repair, alteration, or modification of a product or of equipment in heating and air conditioning, refrigeration, ventilation, or process cooling or heating systems;

(7) "Horsepower" means the equivalent to 746 watts;

(8) "HVACR Gas Fitting Work" means gas fitting work for the purpose of supplying a HVACR system and shall be limited to installing six (6) feet or less final of gas piping connection to a heating unit

from an existing, accessible manual safety shutoff gas cock, installing flue gas vents and combustion air for the HVACR system;

(9) "HVACR Licensing Fund" means a fund established under this act to be used exclusively to fund all activities covered under this act;

(10) "HVACR Maintenance Work" means repair, modification, service and all other work required for the normal continued performance of a HVACR system. This term does not include the installation or total replacement of a system, or the installation of boiler or pressure vessels that must be installed by persons licensed under Arkansas Code Title 20, Chapter 23;

(11) "Licensee" means the holder of a license issued pursuant to this act;

(12) "One Ton" means 12,000 BTUH;

(13) "Persons" means any individual, firm, partnership, co-partnership, corporation, association, cooperative or any other association or combination thereof;

(14) "Public Entity" means any agency of the State of Arkansas or any political subdivision of the state;

(15) "Refrigeration" means the use of mechanical or absorption equipment to control temperature, humidity or both in order to satisfy the intended use of a specific space other than for human comfort;

(16) "Registrant" means a person who doe snot hold a Class A, B, or C HVACR license and who can only perform work for an HVACR Licensee and who holds a current HVACR registration;

(17) "Repair" means the reconstruction or replacement of any part of an existing HVACR system for the purpose of its maintenance.

(18) "Subcontractor" means a person who performs a portion of the HVACR installation;

(19) "Ventilation" means the process of supplying or removing air by natural or mechanical means to or from any space.

SECTION 2. Board Composition. (a) There is hereby created the HVACR Licensing Board to be composed of nine (9) members appointed by the Governor of the State of Arkansas and confirmed by the Senate. The Board shall be composed of the following members who shall be residents of the State of Arkansas;

(1) The Secretary of the Board shall be a representative of the Arkansas Department of Health;

(2) Two (2) members of the board shall be a Class " license holders whose business is located in the state of Arkansas;

(3) Two (2) members of the board shall be Class B license holders whose business is located in the state of Arkansas;

(4) One (1) member of the board shall be a mechanical engineer registered in the state of Arkansas who is directly associated with HVACR design;

(5) One (1) member of the board shall be a representative of a city or county HVACR Inspection Program;

(6) One (1) member of the board shall be a consumer with no personal or financial interest in the HVACR industry; and

(7) One (1) member of the board shall be a member of the Mechanical Contractors' Association of Arkansas who holds a current state contractor's license.

(b) For the initial board appointed under this act, members who are appointed to a position requiring an HVACR license shall obtain the license within ninety (90) days after appointment, or shall be ineligible to hold the position and the position shall be deemed vacant and shall be filled by a qualified individual.

(c) The Secretary of the Board who shall be an employee of the Arkansas Department of Health shall serve at the pleasure of the Governor, and all other members shall serve four (4) year terms as determined by the drawing of lots with two (2) members' terms expiring each year.

(d) No member shall serve more than two (2) successive terms on the board, or until he ceases to be qualified as required by this act.

(e) A member shall serve until he is replaced by a successor.

(f) Persons appointed to the Air Conditioning and Heating Board under Act 704 of 1987 may be appointed under this act.

(g) The board shall receive reimbursement for expenses incurred while attending board meetings and authorized board functions in accordance with the current travel policies and procedures established by the department and fifty dollars ($50.00) per diem.

SECTION 3. Powers and Duties of the Board. The board may:

(1) Adopt certain rules and regulations to insure the proper administration and enforcement of this act;

(2) Adopt a mechanical code and standards for the conduct of HVACR work;

(3) Assist and advise the department on all matters related to licensing of HVACR maintenance work;

(4) Conduct hearings on all matters related to the licensing and inspection of HVACR maintenance work;

(5) Establish HVACR code inspection programs;

(6) Conduct investigations into the qualifications of applicants for licenser at the request of the department;

(7) Review applications for examination for a Class A, Class B, and Class C license;

(8) Assist and advise the department in other such matters as is requested thereby; and

(9) Establish fees for the proper administration of the requirements of this act.

SECTION 4. Administrative Procedures. For the purpose of this act all hearings conducted by the board and all appeals taken from the decisions of the board shall be pursuant to the Administrative Procedures Act, Arkansas Code 25-15-201 et seq.

SECTION 5. License Requirement. (a) Beginning July 1, 1992, it is unlawful for any person to engage in HVACR work without the appropriate license or registration provided by this act, unless exempted pursuant to this act.

(b) It is unlawful for any Licensee to allow a non-licensed person to use his Arkansas HVACR license number for any purpose.

SECTION 6. Exemptions. (a) This act shall not apply to:

(1) Household appliances;

(2) American Gas Association (AGA) approved unvented space heaters;

(3) Factory assembled air cooled, self-contained refrigeration equipment of 1.5 H.P. or less and which have no refrigerant lines extending beyond the cabinet enclosure;

(4) Factory assembled air cooled, self-contained window-type air conditioning units of 36,000 BTUH or less not connected to ducts;

(5) Window, attic, ceiling and wall fans in residences; or

(6) Poultry operations whether engaged in hatching, primary processing or further processing of chicken, turkey or other fowl.

(b) This act shall not apply to a person who:

(1) Performs HVACR work in an existing building or structure owned and occupied by him as his home;

(2) Performs HVACR work in an existing building or structure owned or occupied by him on his farm;

(3) Performs work for public utilities on construction, maintenance, and development work, which is incidental to their business;

(4) Performs work on motor vehicles;

(5) Is an architect or registered engineer who designs HVACR systems for design criteria only:

(6) Is an employee of a hospital and who performs HVACR work which is incidental to the hospital's operation;

(7) Installs or does maintenance work on a gas fired floor furnace, wall furnace or unit heater, if the person is licensed pursuant to Arkansas Code 17-31-301 et seq., and the work is performed within the limitations of the person's license;

(8) Is a pipefitter, welder, well driller, or plumber working under a Class A or Class B Licensee and who is enrolled in or has satisfactorily completed an apprenticeship training program, approved by the State of Arkansas, in his respective trade; and the work is performed within the limitations of the person's license; or

(9) Is a HVACR subcontractor who performs HVACR work for a current HVACR Class A or Class B Licensee.

(c) The provisions of this act shall not apply to a person or public entity serving or repairing its own HVACR system by its own personnel specifically trained for such service or repair.

(d) Any person exempt under this section is required to conform to regulations on the performance or HVACR work as well as obtaining local permits and inspections as may be required by local ordinance.

SECTION 7. Classes of License. (a) Except as otherwise provided in this act, every individual who designs, installs, constructs, maintains, services, repairs, alters or modifies any HVACR system or any portion of an HVACR system in the state of Arkansas shall obtain one of the following classes of licenses and pay the fees prescribed by the board;

(1) Class A - Entitles the Licensee to perform HVACR work without limitation to BTUH or horsepower capacities;

(2) Class B - Entitles the Licensee to perform HVACR work on air conditioning systems that develop a total of not more than 15 tons cooling capacity per unit or 1 million BTUH heating input per unit and refrigeration systems of 15 H.P. or less per unit; or

(3) Class C - Entitles the Licensee, who is in the business of servicing and repairing heating, ventilation, air conditioning or refrigeration equipment for the public to service, repair or replace components of HVACR equipment and to perform HVACR work on air conditioning systems that develop a total of not more than 15 tons cooling capacity per unit or 1 million BTUH heating input per unit and refrigeration systems of 15 horsepower or less per unit. A Class C license holder shall not install any original HVACR equipment or replace any existing HVACR equipment.

(b) An individual may perform HVACR work under a Class A, B, or C HVACR license holder by registering with the department. The registrant shall pay an annual registration fee as required by the board. All licenses are responsible for insuring that all HVACR employees hold a current HVACR registration or HVACR license.

SECTION 8. Qualifications for Licensure. (a) An applicant for a HVACR license must meet the following minimum requirements;

(1) The applicant must be an individual of at least eighteen (18) years of age;

(2) The applicant must make application to the department on forms prescribed by the board;

(3) The applicant must specify the class of license desired;

(4) The applicant must meet all requirements specified by rule and regulation promulgated by the board;

(5) The applicant must pay the appropriate examination and license fees required by the board; and

(6) The applicant must pass the appropriate examinations specified by the board. An applicant who fails an examination will be eligible for re-examination after thirty (30) days.

SECTION 9. Denial of license. All applicants who meet the requirements for licensure or registration shall be issued the appropriate license or registration except that the board may deny a license if applicant has:

(1) Committed any act, which if committed by a Licensee or registrant, would be grounds for suspension or revocation of the license or registration;

(2) Previously been denied a license or registration under this act for cause or previously had a license or registration revoked for cause; or

(3) Knowingly made any false statement or misrepresentation on the application.

SECTION 10. Grandfather Clause. Upon application to the board, every individual who has engaged in the performance of HVACR work as an employer or employee for at least two (2) years prior to July 1, 1991, shall be entitled to obtain the appropriate license upon paying the appropriate fees. The application for licensure under this provision must be made before July 1, 1992.

SECTION 11. Fees. (a) The board shall adopt a fee schedule by rule and regulation. The fee schedule may include, but is not limited to, testing fees, license fees, civil penalty fees, registration fees, inspection fees, fees for code books, late renewal fees, late penalty fees. The board may provide for a reduction in the fees of a person or partnership who holds one (1) or more licenses determined by the board to be HVACR related and for which the board determines a reduction in fees should be allowed.

(b) Until a fee schedule is established by the board, the licensure and registration fees shall be as follows:

Class A License	$200.00
Class B License	$150.00
Class C License	$100.00
Registration Fee	$ 25.00

(c) The fees established by the board for licensure and registration shall not exceed the amounts provided for in subsection (b) of this section.

SECTION 12. Expiration and Renewal of License or Registration. All licenses or registrations issued under this act shall expire one (1) year after the date of issuance or at a time specified by the board. To renew a license or registration, the Licensee must submit to the department, before the expiration date on a form prescribed by the department, the appropriate license or registration fees required by this act.

SECTION 13. HVACR Gas Fitting Work. Any individual licensed or registered to perform HVACR work may perform HVACR gas fitting work without obtaining any other license to perform the work. HVACR gas fitting work shall be performed in accordance with the appropriate standards for gas fitting work.

SECTION 14. Local Permits and Licensing. Any individual who is licensed or registered under this act shall not be required to obtain a license from any city or county to perform HVACR work. However, the work performed shall be subject to local permits and inspections if required.

SECTION 15. Display of License Number. Every individual licensed under this act shall display his HVACR license number on all his business vehicles and in all forms of advertising, in a manner prescribed by the rules and regulations promulgated by the board.

SECTION 16. Grounds for Suspension or Revocation. The board, on its own motion, may make investigations and conduct hearings and, on its own motion or upon complaint in writing signed and verified by the complainant, suspend or revoke any license or registration if it finds that the holder of the license or registrant has:

(1) Made a material misstatement in the application for license or registration or renewal thereof;

(2) Demonstrated incompetency to act as a license holder or registrant according to rules and standards promulgated by the board; or

(3) Has violated any provisions of this act or any rule, regulation, or order prescribed by the board.

SECTION 17. Procedure for Suspension or Revocation. (a) A copy of the complaint shall be served on the person complained against. Any answer thereto shall be filed within twenty (20) days of the receipt of the complaint by the Licensee.

(b) No order suspending or revoking a license or registration shall be made until after a public hearing set by the board not less than sixty (60) days after the serving of a complaint on the Licensee. The hearing shall be held at the place designated by the board. The individual complained against shall have the right to be represented by counsel and to introduce any evidence in his defense. The conduct of the hearing shall be in accordance with recognized rules of legal procedure.

(c) An appeal may be had from the hearing pursuant to the Administrative Procedure Act, 25-15-201 et seq.

(d) Any member of the board or a representative designated by the board shall have the authority to administer oaths for the taking of testimony.

(e) One (1) year after the date of the revocation, an application may be made for a new license or registration.

SECTION 18. Penalties. Any person who violates any provision of this act or violates any rule, regulation, or order of the board or any permit, license or certification may:

(1) In accordance with the regulations issued by the board, be assessed a civil penalty by the board. The penalty shall not exceed two hundred fifty dollars ($250.00) for each violation and each day of a continuing violation may be deemed a separate violation for purposes of penalty assessments. However, no civil penalty may be assessed until the person charged with the violation has been given the opportunity for a hearing on the violation.

(2) In any civil action instituted by the department under this act, be assessed a civil penalty by the court. The penalty shall not exceed two hundred fifty dollars ($250.00) for each violation. Each day a continuing violation may be deemed a separate violation for the purpose of penalty assessments.

SECTION 19. Collections of Funds. Beginning July 1, 1991, all fees or payments of any type collected by the board under this act shall be deposited in the State Treasury as special revenues, and the State Treasurer shall credit the same to the "HVACR Licensing Fund" which is hereby created. All funds deposited in the HVACR Licensing Fund shall be used for the maintenance, operation and improvement of the HVACR Licensing and Inspection Program of the Arkansas Department of Health. The Chief Fiscal Officer of the State is hereby authorized, from time to time, to make transfers of monies from the Budget Revolving Fund as loans to the HVACR Licensing Fund to be used for maintenance and operation of the HVACR Licensing and HVACR Inspection Program of the Arkansas Department of Health; provided that any such monies loaned from the Budget Revolving Fund to the HVACR Licensing Fund shall be repaid from fees derived from the HVACR Licensing and HVACR Inspection Program on or before the last day of the fiscal year in which the loan of the funds is made. Subject to such rules and regulations as may be implemented by the Chief Fiscal Officer of the State, the Disbursing Officer for the Department of Health is hereby authorized to transfer all unexpended funds relative to the HVACR Licensing and Inspection Program that pertain to fees collected, as certified by the Chief Fiscal Officer of the State, to be carried forward and made available for expenditures for the same purpose for any following fiscal year.

SECTION 20. Any monies received from the sale or trade of motor vehicles and other capital equipment purchased with HVACR licensing funds, shall be credited to the HVACR Licensing Fund.

SECTION 21. Nothing in this act shall be construed as allowing an HVACR licenses to perform electrical work without complying with applicable local, city, or state electrical licensing requirements and any applicable local code, city code, state code or national code pertaining to electrical work.

SECTION 22. All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 23. If any provision of this act or the application thereof to any person or circumstance is held invalid, such invalidity shall not other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are declared to be severable.

SECTION 24. Repealer. Act 704 of 1987 and all other laws and parts of laws in conflict with this Act are hereby repealed.

SECTION 25. Emergency Clause. It is hereby found and determined by the General Assembly that the lack of a present HVACR Licensing Law allows for poorly installed or improperly serviced or maintained hearing, ventilation, air conditioning and refrigeration systems. The lack of a law does not allow for consumer or public health protection to the citizens of the State of Arkansas. Therefore, an emergency is hereby declared to exist and this act being necessary for the preservation of the public health and safety shall be in full force and effect from and after its passage and approval.

Act 653 of 1991

" AN ACT TO EMPOWER THE ARKANSAS BOARD OF ELECTRICAL EXAMINERS TO PROMULGATE A STATEWIDE ELECTRICAL CODE; TO PROVIDE THAT THE CODE SHALL APPLY TO ALL NEW CONSTRUCTION AND NEW SINGLE AND MULTI-FAMILY RESIDENCES; TO PROVIDE FOR THE ENFORCEMENT OF THIS ACT; AND FOR OTHER PURPOSES."

SECTION 1. The act may be known and may be cited as the "Arkansas Electrical Code Authority Act".

SECTION 2. As used in this act, unless the context otherwise requires;

(1) "Board" means the Board of Electrical Examiners of the State of Arkansas created by Arkansas Code 17-25-101 et seq.;

(2) "Department" means the Arkansas Department of Labor;

(3) "Director" means the Director of the Arkansas Department of Labor;

(4) "Electrician" means any person, individual, member, or employee of a firm, partnership, or corporation which is engaged in the business of, or who for hire,;

(A) plans, lays out, and supervises the installation, maintenance, and extension of electrical conductors and equipment; or

(B) installs, erects, repairs, or contracts to install, erect, or repair;

(i) electrical wires or conductors to be used for the transmission of electric light, heat, power, or signalling purposes, or

(ii) mounding, ducts, raceway or conduit for the reception or protection of such wires or conduits, or

(iii) any electrical machinery, apparatus, or systems to be used for electrical light, heat, power, or signalling purposes; or

(C) means an "electrical contractor", a "master electrician", a "journeymen electrician" or an "industrial maintenance electrician" licensed under Arkansas Code 17-25-101 et seq.

(5) "Electrical facilities" means all wiring fixtures, appurtenances, and appliances for, and in connection with a supply of electricity within or adjacent to any building, structure, or conveyance, but not including the connection with a power supply meter or other power supply source;

(6) "Electrical work" means:

(A) Installations of electric conductors and equipment within or on public and private buildings or other structures, including recreational vehicles, and floating buildings; and other premises such as yards, carnival, parking and other lots, and industrial substations;

(B) Installations of conductors that connect to the supply of electricity;

(C) Installations of other outside conductors on the premises.

(7) "Primary residence" means an unattached single-family dwelling used as the person's primary place of residence.

SECTION 3. (a) Beginning January 1, 1992, the Board of Electrical Examiners of the State of Arkansas is hereby empowered to adopt rules and regulations to establish statewide standards for the construction, installation, and maintenance of electrical facilities and the performance of electrical work.

(b) The Board shall adopt the National Electrical Code, 1990 edition, of the National Fire Protection Association.

(c) In the event there are updates and new editions to the National Electrical Code, the Board shall, after notice and public hearing, adopt such changes and editions which it determines are necessary to insure the public, health and safety.

(d) The statewide standards shall guarantee a uniform minimum standard for the construction, installation, and maintenance of electrical facilities and for the performance of electrical work in:

(1) any new public, business, or commercial buildings or structures constructed after the effective date of this act;

(2) any new educational institutions or buildings constructed after the effective date of this act;

(3) any new single family or multi-family residence constructed after the effective date of this act;

(4) any other type new construction undertaken in the State of Arkansas not specifically exempted under this act.

(e) The term "new" or "new construction" as used in this section shall apply to any new building or structure or any complete addition to or renovation of a building or structure where electrical conductors within are placed, added, or replaced in whole part. It shall not apply to the repair or replacement of existing electrical conductors in existing buildings or structures or to minor repairs consisting of repairing or replacing outlets or minor working parts of electrical fixtures.

(f) It shall be the duty of the Arkansas Department of Labor to administer and enforce the provisions of this act.

SECTION 4. (a) The following types of construction and structures shall be exempted from the provisions of this act:

(1) any construction, installation, maintenance, repair or renovation by a public utility regulated by the Public Service Commission, by a rural electric association or cooperative, or by a municipal utility of any transmission or distribution lines or facilities incidental to their business and covered under other nationally recognized safety standards;

(2) any construction, installation, maintenance, repair, or renovation of any nonresidential farm building or structure;

(3) any construction or manufacture of manufactured homes covered by the federal Manufactured Home Construction and Safety Standards Act, 42 U.S.C. 4501 et seq.

(4) primary residences, whether existing or under construction, when the owner performs the electrical work thereon or the owner performs the construction, maintenance or installation of electrical facilities thereon.

(b) The exemption from compliance with the standards promulgated hereunder shall not be referred to in any way, and shall not be any evidence of the lack of negligence or the exercise of due care by a party at a trial of any civil action to recover damages by any party.

SECTION 5. (a) Beginning January 1, 1992, unless specifically exempted under this Act, no person or electrician shall perform any construction, installation, or maintenance of electrical facilities or perform electrical work in this state except in compliance with the statewide standards promulgated hereunder.

(b) Any person or electrician who does any construction, installation, and maintenance of electrical facilities or performs

electrical work in this state without an exemption and not in compliance with the provisions of this act, shall be guilty of a misdemeanor and upon conviction shall be punished by a fine of not less than fifty dollars ($50.00) and not more than five hundred dollars ($500.00) or by imprisonment for not more than thirty (30) days, or both fine and imprisonment.

(c) In addition to the penalties in subsection (b) of this section, the Director is authorized:

(1) to petition any court of competent jurisdiction to enjoin or restrain any person or electrician who does any construction, installation, and maintenance of electrical facilities or performs electrical work, without an exemption, or who otherwise violates the provisions of this act; and

(2) to seek the suspension or revocation by the board of any "electrical contractor", a "master electrician", a "journeyman electrician" or an "industrial maintenance electrician" licensed under Arkansas Code 17-25-101 et seq. who is found to be in violation of the provisions of this act.

SECTION 6. All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 7. If any provision of this Act or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the Act which can be given effect without the invalid provision or application, and to this end the provisions of this Act are declared to be severable.

SECTION 8. All laws and parts of laws in conflict with this act are hereby repealed.

Act 839 of 1991

"AN ACT TO AMEND TITLE 26, CHAPTER 80, SUBCHAPTER 1 TO CLARIFY THE USES FOR CAPITOL OUTLAY TAXES; AND FOR OTHER PURPOSES."

SECTION 1. Arkansas Code § 26-80-110(b) is hereby amended to read as follows:

"(b) Any funds received from the collection of a capital outlay tax are restricted for the purpose of capital outlay. Capital outlay funds shall only be used for the following purposes:

(1) Acquisition of sites or construction of facilities to support the instructional program of the district;

(2) Purchase of school buses;

(3) Purchase of furniture or equipment to support the instructional program;

(4) Renovation or repair of existing facilities; or
(5) Repaying revolving loans."

SECTION 2. All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 3. If any provision of this act or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this and the provisions of this act are declared to be severable.

SECTION 4. All laws and parts of laws in conflict with this act are hereby repealed.

Act 1100 1991

"AN ACT TO SAFEGUARD LIFE, HEALTH AND PROPERTY BY REQUIRING EARTHQUAKE RESISTANT DESIGN FOR ALL PUBLIC STRUCTURES TO BE CONSTRUCTED OR REMODELED WITHIN THE BOUNDARIES OF THIS STATE BEGINNING SEPTEMBER 1, 1991."

SECTION 1. It is the purpose of this act to protect the public by requiring that all public structures be designed and constructed to resist destructive forces when an earthquake occurs in the New Madrid Seismic Zone.

SECTION 2. Definitions. Whenever used in this act, unless a different meaning clearly appears from the context:

(a) "Owner" shall mean any agency of the state, county, city, township, town, village, or private entity, partnership, business or corporation.

(b) "Public Structure" means any building intended, or adaptable, for public employment, assembly, or any other use if it will be open to the public. Also included in this definition are certain building types as defined under the term "Public Works" projects.

(c) "Public Works" means works, whether of construction or adoption, undertaken and carried out by the national, state, county, school district, or municipal authorities, and designed to serve some purpose of public necessity, use, or convenience; such as public buildings, roads, aqueducts, parks, and all other fixed works constructed for public use. The term relates to the construction of public improvements and not to their maintenance or operation.

(d) "Add to" shall mean adding to existing buildings or structures more than four thousand (4000) square feet in gross floor area and all areas of increased building height.

(e) "Alter", "retrofit", and "remodel" means any alteration or repair of a building which when completed will increase the market value of the building by one hundred percent (100%) or more.

(f) "Seal" means the Arkansas seal issued to signify certification of registration to practice architecture or engineering.

(g) "Seismic" means pertaining to an earthquake or earth tremor (vibrations).

(h) "Structural Elements" shall mean all structural load carrying members of a building or structure required to transmit loads (forces) within the building or between the building and the ground.

SECTION 3. Seismic Zones Established. Areas within the boundaries of this State shall be divided into zones of anticipated damage that will occur in various locations with respect to the New Madrid Seismic Zone.

(a) Zone 3. Area of greatest anticipated seismic damage shall include the following countries: Clay, Greene, Craighead, Mississippi, Poinsett, Cross, Crittenden, St. Francis, Randolph, Lawrence, Jackson, Woodruff, and Lee.

(b) Zone 2. Area of moderate anticipated seismic damage shall include the following counties: Sharp, Independence, White, Lonoke, Prairie, Arkansas, Monroe, Phillips, Fulton, Izard, Stone, and Cleburne.

(c) Zone 1. Area of low anticipated seismic damage shall include all remaining counties within the boundaries of this State.

SECTION 4. Design Requirements. Hereafter, neither the state, any county, city, township, village or private entity shall construct, add to, alter, retrofit, or remodel any public structure unless the structural elements are designed to resist the anticipated forces of the designated seismic zone in which the structure is located. Design loads and seismic design requirements shall be, as a minimum, those listed in the chapter of Minimum Design Loads and Referenced Chapters from the Standard Building Code, 1988 or latest edition with revisions.

All construction plans for public buildings and structures shall comply with Arkansas Code 17-14-101 through 17-14-311. The design of structural elements of public buildings and structures shall be performed by a professional engineer registered in the State of Arkansas who is competent in seismic structural design according to current standards of technical competence. The structural plans of each public building or structure shall bear the Engineer's Arkansas seal and signature and a statement of reference to what Seismic Zone the structure is designed to satisfy.

SECTION 5. Exemptions. Certain building types such as single family residential, duplexes, triplexes, and agricultural structures shall not be included in the requirements of this act.

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SECTION 6. Violations and Penalties. Any owner knowingly constructing a public building within this State after September 1, 1991, without complying with the provisions of this act shall be guilty of a Class A misdemeanor and shall upon conviction, be sentenced to pay a fine of not less than one thousand dollars ($1,000). Each day of such unlawful construction practice shall constitute a distinct and separate offense.

SECTION 7. All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION 8. If any provision of this act or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given affect without the invalid provision or application, and to this and the provisions of this act are declared to be severable.

SECTION 9. All laws and parts of laws in conflict with this act are hereby repealed.

APPENDIX D

SUGGESTED MAINTENANCE AND HOUSEKEEPING MEASURES

Specify height of floor to prevent damage resulting from flash flooding.

Specify adequate drainage be provided for surface water.

Trees should not be planted nor left standing near school buildings. The longest limb that a mature tree can produce should not reach a building.

Shrubs should be selected which are not susceptible to bag worms, insects and disease. Miniature shrubs, which require no hand trimming, are preferred. Shrubs should be located in such a way that riding mowers can be used extensively and space should be provided for placing ladders and/or scaffolds against exterior walls.

Design and locate parking lots for easy access, safety and easy traffic management. Provide emergency fire lane space between parked vehicles and buildings.

Careful consideration should be given to the design of access and egress for automotive and pedestrian traffic. Avoid congestion, provide for safe and easy traffic flow. Bus dock and parent pick up points should be separated if possible. Low maintenance hard surfacing should be provided.

All exterior walls and openings should be designed with low cost maintenance in mind. For example: exterior surfaces requiring paint increases the annual maintenance cost.

Frost proof, keyed water valves with a 3/4" hose bib should be provided on exterior walls.

Placing weatherproof electrical outlets on exterior walls eliminates distractions and time loss caused by plugging extension cords through windows into room outlets.

Large paved aprons near entrances reduce the amount of dirt tracked onto corridors and rooms. This reduces the maintenance and operations cost.

Roof failure is one of the most common and most costly problems found in new buildings. A roofing specialist should assist the architect in writing roofing specifications and designing the roof structure. A

roofing specialist should also supervise the application of roofing components. Standing seam metal roofs have proven to reduce maintenance cost over long maintenance periods. NEVER PUT A FLAT ROOF ON A BUILDING.

A system wide keying schedule for locks should be specified for new buildings.

Good quality hardware should be specified. As a rule, "the lower the initial cost, the higher the life cycle cost."

Good quality hydraulic door closer reduces maintenance cost.

Floor covering should be selected which will create the results desired in the specific area.

Housekeeping costs are usually less on carpeted floors than on vinyl tile. Commercial grade carpet should be selected. Pile height, type of fiber, surface weight, density of pile, dye process and the type of primary and secondary backing are important to consider when selecting carpets. Acrylic, nylon, polyester and polyprophlene fibers are in common use in schools. A 32 ounce surface weight carpet is usually the minimum most authorities recommend for school usage. A heavier weight will be of better service. The color should be solid with overtones and should be compatible with the natural soiling conditions in the area.

Terrazzo floor (especially in corridors, toilets, vestibules and common areas) have long life and low housekeeping and maintenance costs.

Resilient floor coverings should be selected with care. Neutral colors (not dark or light) should be selected.

Toilet floors and walls should have a covering that can be scrubbed with a brush and rinsed with water from a garden hose.

A keyed water faucet with a 3/4" hose bib should be specified for each toilet.

Epoxy paint or a high grade enamel should be specified for corridor walls, toilet walls (when not covered by impervious material) and in classrooms about an area of four feet from the floor.

All toilets, shower stalls, dressing rooms and kitchens should have floor drains.

Toilet fixtures should be designed and installed to be as vandal-proof as possible.

Toilet stall partitions should be washable and rustproof.

Low ceilings made of easily vandalized material should be avoided in areas that are not under close supervision, such as toilets, dressing areas, stairwells, etc.

Light fixtures should be specified with high quality ballasts, good quality diffusing apparatus and should be easy to clean and service.

Do not over-design the mechanical part of any building. Good quality heating and air conditioning units reduce maintenance costs and downtime. Weigh the initial costs against the life cycle cost.

Avoid placing utility panels in storage areas which may cause access to be difficult.

Avoid the traditional "wall hung" mop sink. The mop sink on the floor has greater utility value.

Wall hung toilets may be more expensive initially, but make housekeeping much easier and reduce cost over the life of the building.

NOTE: All building materials used in new construction or remodeling should be certified asbestos free.

APPENDIX E

RECOMMENDATIONS ON RESTROOM AND PLUMBING FIXTURES

Fixture and Application	Mounting Heights	Fixture-Student Ratio
Water Closets		
Grades kindergarten through 3, boys	13"	1 to 50
Grades kindergarten through 3, girls	13"	1 to 30
Grades 4 through 6, boys	15"	1 to 50
Grades 4 through 6, girls	15"	1 to 30
Grades 7 through 12 boys, 7-12	15"	1 to 75
Grades 7 through 12	15"	1 to 40
Urinals		
Grades kindergarten through 3	18"	1 to 30
Grades 4 through 6	20"	1 to 30
Grades 7 through 9	22"	1 to 40
Grades10 through 12	24"	1 to 40
Lavatories		
Grades kindergarten and 1	24"	1 for each water closet
Grades 2 through 6	27"	1 for each water closet
Grades 7 through 12	31"	1 for each water closet
Drinking Fountains		
Grades kindergarten through 3	24"	1 for 100 or 1 for each floor or separate area
Grades 4 through 6	28"	1 for 100 or 1 for each floor or separate area
Grades 7 through 12	34"	1 for 100 or 1 for each floor or separate area

Fixture and Application	Mounting Heights	Fixture-Student Ratio
Showers (see note below) Elementary boys and girls (for physical education)	50"	1 for each 15 in activity
* Boys, grades 7 through 9 (physical education)	66"	1 for each 15 in activity
* Girls, grades 7 through 9 (physical education)	56"	1 for each 15 in activity
* Boys, grades 10 through 12 (physical education)	70-72"	1 for each 15 in activity
* Girls, grades 10 through 12 (physical education)	58"	1 for each 15 in activity

Suggested Sizes for Toilets

Gang toilets--30 to 36 square feet of floor space per fixture
Self-contained classrooms--30 to 40 square feet per toilet

* Shower mounting heights should be measured from finished floor to center line of shower head.

APPENDIX F

RECOMMENDATIONS ON SCHOOL LIGHTING

RECOMMENDED LEVELS OF SCHOOL LIGHTING

Areas to be Lighted	Footcandles on Tasks
Regular classrooms	70
Library	70
Drafting rooms	100
Home economics rooms	
Sewing	150
Cooking	50
Ironing	50
Sink activities	70
Note-taking areas	70
Laboratories	100
Lecture rooms	
Audience area	70
Demonstration area	150
Music rooms	
Simple scores	30
Advanced scores	70
Shops	100
Sight-saving rooms	150
Study halls	70
Typing	70
Corridors and stairways	20
Corridors with lockers	50

Light Fixtures

A good quality diffused light fixture should be used. The open or bare bulb fixture should not be used as the glare produced by this fixture may provide injury to the eyes.

Interior Finishes

Interior finishes affect light and should have the following minimum reflectance values:

Ceiling	80 percent
Window walls	70 percent
Other walls	60 percent
Wainscot	40 percent
Floors	30 percent
Tackboard	30 percent
Chalkboard	20 percent

Changes in the colors of the interior of the rooms, the number of windows, age of light fixtures, cleanliness of the fixture, of other factors may cause the amount of available lighting for a given area to change from time to time. Therefore, it is suggested that rooms be monitored regularly to determine if all areas are being properly lighted. This may be done with the use of a light meter specifically designed for this purpose. In many districts, the local power company will perform this service for the school.

A lighting specialist should be consulted when planning for new construction or when renovating existing buildings.

APPENDIX G

EXAMPLE BID NOTICE

The School Plant Service, ADE, experiences frequent inquiries concerning a form for advertising for bidders and for sale of school property. The following form is presented as examples that may be used:

NOTICE TO BIDDERS

Sealed proposals addressed to the _____ School District, _____, Arkansas, for the construction of building(s) in accordance with the specifications and instruction to bidders, prepared by an official of the school district or its agent, will be received at the office of the SUPERINTENDENT OF SCHOOLS, _____ School District, _____, Arkansas, until _____, ****(give exact date, including time of day) - reduce and place here**** and then publicly opened and read.

A bid bond in an amount equal to five percent of the total bid must accompany the bid as a guarantee that if awarded the contract, the BIDDER will promptly enter into a contract with the _____ School District, as outlined in the specifications and instructions to bidders. No substitute will be acceptable in lieu of the bid bond.

A performance and payment bond in the amount of 100 percent of the contract price will be required. No substitute will be acceptable in lieu of the performance and payment bond.

Specifications and instructions may be procured from the office of the SUPERINTENDENT OF SCHOOLS, _____, Arkansas.

In case of ambiguity or lack of clearness in stating prices in the proposal, the OWNER reserves the right to adopt the most advantageous interpretation thereof, or to reject the proposal.

The OWNER reserves the right to reject any and/or all bids and to waive any and/or all formalities.

(Signed) _____
(Superintendent of Schools)

(Publish this notice once each week for not less than two weeks. Open bids not less than one week following last date of publication.)

APPENDIX H

CONSTRUCTION PLAN REVIEW

State Agencies required by law to review and approve new school construction or addition plans are:

State Department of Education

School Plant Service
#4 Capitol Mall
Little Rock, AR 72201

Telephone: (501) 682-4261

State Building Services

State Building Services
Suite 700, 1515 Building
1515 West Seventh
Little Rock, AR 72202

Telephone: (501) 682-5558

State Health Department

Arkansas Department of Health
Division of Plumbing and Natural Gas
4815 W. Markham
Little Rock, AR 72201

Telephone: (501) 661-2642

State Fire Marshal

Arkansas State Police
P. O. Box 5901
Little Rock, AR 72215
Telephone: (501) ~~224-3103~~ 221-8258

SW City Mall
#1 State Police Plaza Dr.
LR 72209
618-8624

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